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TESIS DOCTORAL

Corporate Governance and Organizational Networks

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Abstract

As organizations become part of larger eco-systems where boundaries are constantly reshaping, network approach complements and extends traditional notions of research in corporate governance. This dissertation consists of three chapters that examine manager's self-serving behavior by adopting socialized view.

In the first chapter, we broaden the concept of managerial entrenchment by considering the network of firms in which CEOs serve as board members. Unlike the traditional agency theory's assumption that entrenchment occurs within the firm, we move the focus from the firm to the network of firms with board ties to the focal firm and suggest that CEOs may create a network of directorships in order to entrench themselves at a network level. We posit that this will happen when firms' internal governance structure is strong and their performance prospects are relatively poor. In creating this network of ties, ideal targets are companies with weak governance structures and located in distant sectors from focal firms. We therefore hypothesize that CEOs will make use of these to move to connected firms of network when bad performance is realized. These predictions are empirically supported using a sample of US corporations for the period 2004-2012.

Following this line of thought, the second chapter examines how CEOs favor their chances of building networks with other firms. We focus on a concrete use of firm resources, the transfer or tunneling of profits from the CEO's firm to other firms, and find such tunneling increases the likelihood of gaining additional board appointments as well as maintaining them once CEOs change their job.

In the third chapter, we analyze the labor market consequences of building social networks for stigmatized corporate leaders. Different from a dominant view that social network can relieve stigmatization, we provide a competing view that social network can also enhance the intension of stigmatizing effect on failed CEOs. Using a sample of CEOs from year 2004-2012, we find that as the number of ties increases, CEO's exposure to economic arbiters increases that deteriorates the labor market consequences of failed CEO. Furthermore, CEOs surrounded with networks of strong corporate governance firms also have deteriorating effect from their networks.

Resumen

A medida que las organizaciones se integran en grandes ecosistemas donde las fronteras se están constantemente redefiniendo, el enfoque de red complementa y amplía las nociones tradicionales de la investigación en la gestión empresarial. Esta tesis consta de tres capítulos que analizan el comportamiento directivo que se desvía de intereses de los accionistas mediante la adopción de un enfoque social.

En primer capítulo, ampliamos el concepto de *managerial entrenchment* teniendo en cuenta la red de empresas en las que los directores generales sirven como miembros de la junta. A diferencia de la teoría de la agencia tradicional que supone que *entrenchment* se produce dentro de la empresa, movemos el foco desde la firma hacia la red de empresas que se vínculan con la empresa focal y sugerimos que los CEOs pueden crear una red de consejos con el fin de atrincherarse a nivel de la red. Postulamos que esto ocurrirá cuando la estructura del gobierno interno de las empresas es fuerte y sus perspectivas de rendimiento son relativamente pobres. En la creación de esta red de vínculos, los objetivos ideales son empresas con estructuras de gobierno débiles y ubicados en sectores distantes de las firmas focales. Por lo tanto, la hipótesis de que los CEOs harán el uso de estos para mover a las empresas conectadas de la red cuando se realiza un mal desempeño. Estas previsiones están apoyadas empíricamente utilizando una muestra de las empresas americanas para el período 2004-2012.

Siguiendo esta línea de pensamiento, el segundo capítulo examina cómo los CEOs favorecen las posibilidades de creación de redes con otras empresas. Nos centramos en un uso concreto de recursos de la empresa, la transferencia o *tunneling* de las ganancias de la firma del director general a otras empresas, y encontramos tal efecto túnel aumenta la probabilidad de obtener citas adicionales con los miembros de la junta directiva, así como su mantenimiento una vez que los CEOs cambien de trabajo.

En el tercer capítulo, se analiza el lado oscuro de la construcción de redes sociales para los líderes corporativos estigmatizados. A diferencia de un punto de vista predominante de que la red social puede aliviar la estigmatización, proporcionamos un enfoque alternativo donde la red social también puede mejorar la intensión de efecto estigmatizador sobre los CEOs fallidos. Utilizando una muestra de los CEOs para el período 2004-2012, encontramos que a medida que el número de vínculos, la exposición del director general a árbitros en materia económica aumenta, lo cual deteriora las consecuencias en el mercado de trabajo debido a que el CEOs ha fallado.

Más aún, los CEOs rodeados de redes de firmas con fuerte gobierno corporativo también tienen efectos a partir del deterioro de sus redes.

Contents

Chapter 1

Introduction

The volume of social network research in top management team has increased radically in recent years. Although most work suggested that executive social ties are advantageous to firms as these ties augment firms' strategic knowledge and status in the industry, they also augment the discretion of managers to deviate from shareholders' interests. However, existing both agency and network literatures see this self-serving behavior as a firm-level phenomenon: that is, it is conceived as a set of activities performed by managers to retain private gains in their own firm.

As core of executive suites, managers are the front line of companies to maintain day-to-day operations and organize the momentous deals, in particular, the deals with business partners such as suppliers and buyers; strategic alliances; joint investment projects by which the managers naturally possess an advantageous position to observe firm-level differences between firms. By serving in outside boards of different firms, CEOs of focal firms have the opportunity to establish personal relationships with the executives of receiving firms and exert influence over connected firms. Thus, managers' social ties to other firms constitute the inter-corporate environment that provides them with multiple opportunities to exploit cross-firm resources to serve themselves at the expense of shareholders' interests.

In this dissertation, we move the focus of gains enjoyed by managers from the firm they are operating to the connected firms of manager networks. Particularly, we focus on strategy and consequences of social network building by top managers for exploiting cross-firm opportunities to serve private interests.

Chapter 2 of this dissertation broadens the concept of managerial entrenchment by considering the network of firms in which CEOs serve as board members. For agency theorists, managerial entrenchment is one of the costliest manifestations of agency problems. CEOs in their attempt to neutralize the discipline of corporate governance mechanisms cause substantive losses to firms' shareholders. Unlike the traditional agency theory's assumption that entrenchment occurs within the firm, in this essay,

we move the focus from the firm to the network of firms with board ties to the focal firm and suggest that CEOs may create a network of directorships in order to entrench themselves at a network level. We posit that this will happen when firms' internal governance structures are strong and their performance prospects are relatively poor. In creating this network of ties, ideal targets are companies with weak governance structures and located in distant sectors from focal firms. We therefore hypothesize that CEOs will make use of these ties to move to connected firms of network when bad performance is realized. These predictions are empirically supported using a panel data on 4,007 US corporations for the period 2004-2012.

In Chapter 3, we focus on a concrete use of firm resources, the transfer or tunneling of profits from the CEO's firm to other firms, and analyze whether such tunneling increases the likelihood of gaining additional board appointments as well as maintaining them once CEOs change their job. The enlargement of a personal network through outside board appointments bring CEOs large benefits like social influence, power, compensation, reputation, and future employment opportunities. For accruing these benefits, CEOs may use their control over firm resources to receive invitations to serve as outside director of other firms. We hypothesize that CEOs might sacrifice part of their firm performance to favor their chances of being appointed in other firms' boards. We further predict that, after sitting on these outside boards, CEOs will continue engaging in tunneling activities in order to maintain their outside board positions. Our hypotheses are empirically supported using a panel data on pair-wise CEO-director linkages of 4007 US firms for the period 2004–2012.

In Chapter 4, we analyze the labor market consequences of building social networks for stigmatized corporate leaders. There is a dominant view over social capital's effect on stigmatization that social capital can sometimes exert influence that diminishes the relationship between stigma and devaluation. In this paper, we provide a competing view that instead of relieving the stigmatization, social capital can also enhance the intension of stigmatizing effect on failed CEOs. In particular, we examined the situations in which the social capital can enhance the stigmatization caused by corporate failure. We follow 335 CEOs that ever changed job from year 2004-2012. We find that CEOs who found a job in a connected firm within personal network will suffer fewer employment consequences than those who find a job in a previously unconnected firm. As the number of networks increases, the labor market consequences of failed CEO were also buffered. This mitigating effect of social networks, however, is balanced out by CEO's exposure to economic arbiters owing to

over abundant social networks. Finally, CEOs with networks that have weak corporate governance have fewer labor consequences, while CEOs surrounded with networks of strong corporate governance firms have deteriorating effect from their networks.

Chapter 2

CEO Entrenchment at Network Level

2.1 Introduction

Agency theory, which highlights the core of conflicts that appear within organizations, has contributed to reinforce the long-held view that managers have incentives to pursue their own private benefits at the expense of shareholder interests (Jensen & Meckling, 1976). One of the costliest manifestations of these conflicts is managerial entrenchment. Though not qualified to run a firm, managers may engage in certain activities to neutralize the disciplining influence of capital markets in order to protect their job (Jensen & Ruback, 1983; Shleifer & Vishny, 1989). This self-serving behavior of managers exacerbates the agency problem because the negative consequences for shareholders persist over time (e.g., Jarrell & Poulsen, 1988).

Managerial entrenchment may take a variety of forms, including dual-class recapitalization, new security issues, specific acquisitions and divestitures, poison pills, supermajority amendments, anti-takeover amendments, collusion with non-shareholder stakeholders, and golden parachutes, among others (Walsh & Seward, 1990). Although these defenses may decrease the effectiveness of capital markets in disciplining management, they do not have the same effect on internal governance mechanisms. As corporate governance researchers have long argued, internal governance structures such as the non-duality of CEO and board chairperson positions (Cannella & Lubatkin, 1993), the independence of the board of directors (Weisbach, 1988), and the concentration of ownership in hands of few large shareholders (Hill & Snell, 1989) are specially effective in curtailing managerial entrenchment.

As the intensity of monitoring by outside directors and large shareholders increases, managers find it less beneficial to set on entrenchment within the firm. In those firms with strong internal governance, firm-level managerial entrenchment is not particularly effective in preventing managerial dismissal when bad performance figures come out (Bhagat & Bolton, 2008; Weisbach, 1988). Hence, in a context of well-developed internal control mechanisms and negative firm's performance prospects, managers may seek alternatives outside the firm to ensure their jobs.

Research on social networks has suggested that the presence of managers in other boards may be useful in securing managers subsequent job opportunities (Mizruchi, 1996). The size of some firms, the complexity of their activities, and the interconnections with other organizations create the proper environment for managers to find positions within their network of ties (Booth & Deli, 1996; Burt, 1980). Such interpersonal ties among managers may restrict the negative employment consequences of their firms' unsatisfactory performance (Nguyen, 2012), and serve the managerial purpose of accumulating power and prestige (Davis, 1991) as well as finding more easily a new job after resignation/dismissal (Zajac, 1988), even if they lack the skills and legitimacy needed for the new position (Westphal & Stern, 2006).

By combining the above agency and network arguments, in this study we propose that, unlike existing research that confined entrenchment activities within the firm, managers may look at their network of ties when planning their entrenchment strategy. When intra-firm entrenchment strategies are difficult to implement or ineffective due to the strength of the firm's internal governance structure, managers may hatch a network of ties to secure a job and retain their power and prestige. In this case, managers will move to other firms within their network when they face substantial pressures from shareholders because of the firm's bad performance. We denote as network-level entrenchment such activity of engaging in interpersonal ties to protect mangers from the disciplinary role of internal governance structures when bad performance comes out.

Our research makes three unique contributions to the agency and network literatures. The plainest one is the shift of the focus from the firm to the network in studying the managerial entrenchment phenomenon. By broadening the definition of managerial entrenchment, we are adding to the debate about the effectiveness of corporate governance as a mechanism to prevent managerial opportunistic behavior. Firm-level

analyses may be misguided and take certain CEOs turnovers as evidence of the well-functioning of internal governance structures, when these episodes may merely reflect movements of managers within their network of interpersonal ties. Our approach may therefore provide an alternative explanation for the conflicting findings about the association between management turnover and subsequent firm performance (see Huson & Parrino, 2010). Second, our study also enriches network governance research (Jones, Hesterly, & Borgatti, 1997). Theory and case studies in that domain of the corporate governance literature suggest that current governance structures adopted by most firms are out-of-date because of the blurring of boundaries between firms and other economic agents. Although certain economic activities (e.g., R&D) can be conducted more efficiently through interorganizational networks, our findings warn of the inherent risks of this kind of arrangements and suggest that the solutions for addressing governance issues require multiple-agent structures. Third, our study complements existing work on the determinants of network formation. A great deal of network research has focused on the antecedents of positive outcomes, without devoting enough attention to how these social structures come out and to the processes that shape their evolution over time (Zaheer & Soda, 2009). In this study, we seek to understand the origin of the interpersonal ties among managers of different firms. In our theory, CEOs build social ties to diminish the effectiveness of their firms' internal governance structures. Furthermore, we provide evidence of the impact of these networks on the re-employment of resigned CEOs in other firms. Our findings suggest that CEOs are more likely to find new positions in firms of their own network and particularly in those with low corporate governance and that compete in distant sectors from the focal firm. Such result is in line with the social structural perspective on the market for corporate control (e.g., Davis, 1991) according to which the network of ties among managers creates a social context that favors the continued dominance of the same corporate elites.

2.2 Theory and hypotheses

2.2.1 Agency theory approach to managerial entrenchment

Agency theory is concerned with the separation of ownership and control, which may generate a conflict of interests between managers and firms' owners that drives managers to pursue their own private benefits at the expense of shareholder interests (Jensen & Meckling, 1976). In order to align the diverse interests of managers and

shareholders, corporate governance research is aimed at designing control mechanisms. Agency scholars (e.g., Shleifer & Vishny, 1997) generally classified these mechanisms as internal (e.g., the monitoring by the board of directors) or external (e.g., the threat of hostile takeovers). When such mechanisms are in place, managers are pressured to act in the interest of shareholders; otherwise they risk to be dismissed. Manager in prevision of such possible outcome may work to ensure their own job security, even though they are no longer competent or qualified to run the firm (Shleifer & Vishny, 1989).

Walsh and Seward (1990) identified a variety of managerial entrenchment practices that can compromise the disciplinary role of internal and external control mechanisms. For instance, managers may engage in income smoothing and other earnings management practices (Fudenberg & Tirole, 1995), play a dual role as CEOs and chairman of the board (Finkelstein & D'aveni, 1994), and make manager-specific investments (Shleifer & Vishny, 1989) as a means of counterbalancing internal control and protect their job. Other practices may limit the effectiveness of external control mechanisms. One example is the adoption of a poison pill, which "is a security issued by the board of directors in order to make hostile takeover more difficult by dramatically increasing the potential cost a hostile acquirer would have to pay" (Davis, 1991: 584). Other examples are: supermajority amendments, which increase the percentage of shareholder votes needed to approve specific decisions; and golden parachutes, which are contracts that cushion the managers' loss in case of dismissal by awarding them large termination payments. Managerial ownership above certain levels also becomes a takeover deterrence mechanism that promotes managerial entrenchment (Morck, Shleifer, & Vishny, 1988; Stulz, 1988). These actions can cripple external control efforts while causing significant negative stock returns to shareholders (e.g., Jarrell & Poulsen, 1988).

2.2.2 Network approach to managerial entrenchment

As some scholars have argued (e.g., Abolafia & Biggart, 1991; Davis, 1991), a limitation of the agency theory is its asocial conceptualization: It assumes that both managers' actions and corporate governance mechanisms are divorced from social context. But managerial activity is embedded in interorganizational and intraclass structures that make traditional corporate governance analyses incomplete (Granovetter, 1985). Interorganizational structures refer to relationships between firms, such as strategic alliances, joint ventures, buyer-supplier relationships, director

interlocks (individual directors' presence on two or more boards), investment bank ties, trade association, and cross-shareholdings. Intraclass structure refers to a set of personal ties among managers that favors elite cohesion and increase management power and privilege (Useem, 1984). These ties among managers are formed during their education in top schools and are reinforced by attending some social and charitable events or by sharing membership in exclusive clubs. As a result, by means of the intercorporate environment in which the managerial activity took place and through managers' own personal networks, managers act in a broad social network that provides them with multiple opportunities to deviate from shareholders' interests.

Network scholars have been particularly interested in the study of board interlocks. Although most work suggested that executive outside board ties are advantageous to firms as these ties augment firms' strategic knowledge and status in the industry (Geletkanycz & Boyd, 2011; Geletkanycz & Hambrick, 1997), they also augment the discretion of managers to deviate from shareholders' interests. Directorship ties have been linked, for example, to the diffusion of poison pills (Davis, 1991) and golden parachutes (Davis & Greve, 1997; Wade, O'Reilly III, & Chandratat, 1990)—two practices that promote managerial entrenchment. Furthermore, board interlocks provide managers with power and influence (Finkelstein, 1992; Mintz & Schwartz, 1985), which allow them to earn higher salaries (Geletkanycz, Boyd, & Finkelstein, 2001) and make them less likely to be dismissed for poor performance (Nguyen, 2012). These findings have led some scholars (e.g., Zajac, 1988) to suggest that board interlocks are more a means of pursuing managers' personal interests than a channel for managing interdependencies among firms. Thus, directorship ties may have a dark side by favoring the spread of initiatives that protect managerial interests at the expense of shareholders, which hinder the capacity of corporate governance to discipline management in case of bad performance.

2.2.3 CEOs' networks as an exit option

Networks are valuable in job search. Research has shown that CEOs have greater access to more and different job opportunities when they have been able to build a network of interorganizational and personal ties. A large body of evidence supports this argument.

Among CEOs' main responsibilities, there is their firm's alliance strategy. Through collaborative agreements with business partners such as suppliers and buyers,

strategic alliances, and joint investment projects, CEOs interact with senior managers of other firms and often develop personal relationships that may be useful to secure them employment opportunities outside their own firm. Chetty and Agndal (2008), for example, examined the role of different types of networks in Auckland boat-building district and found that interorganizational networks are usually transformed into interpersonal networks through activities such as seminars and business and social events organized by the firms. As representatives of their firms, top executives of participating firms have the opportunity to interact with their counterparts, allowing them to take advantage of the collaboration among firms to build their own network of contacts. The social capital derived from these personal interactions, especially when the network is large, may be valuable in a future re-employment search. In this sense, research has shown that greater connectedness leads CEOs to a better chance of becoming top executives or directors in other companies after their departure, providing evidence that social networks has implications beyond the flow of information and resources among firms, such as more outside employment opportunities for executives (Westphal & Stern, 2006).

Alliance activity is sometimes supported by means of cross-shareholdings, which in turn may lead to interlocking directorates (Burt, 1980). By serving in outside boards, CEOs of focal firms have the opportunity to establish personal relationships with the directors of receiving firms, who are the last responsible of the appointment of potential managers (Mace, 1986). Importantly, as CEOs become members of more outside boards, their likelihood of being appointed directors of other firms increases: They are seen as more experienced and, thus, with greater capability of providing advice to receiving firms (Booth & Deli, 1996; Mizruchi, 1996).

Outside employment opportunities are also associated with the legitimacy, prestige, and power of potential candidates. Beyond increased financial remunerations, board interlocks increase the prestige and status of directors (Useem, 1984). But interlocks also serve other purposes: they constitute the laboratory for elite cohesion (D'Aveni & Kesner, 1993; Ornstein, 1984; Useem, 1984). According to the class alliance approach, interpersonal ties formed among directors serving in different boards create the basis for defending their elite class' interests and for agreeing on political strategies to influence the political sphere to their respective firms' advantage (Useem, 1984). This cohesion also makes them immune to the disciplining role of internal and external control mechanisms (Davis, 1991). Such accumulation of power and prestige makes these executives attractive in the market for executives, which tend to be biased

toward the executive elite — sometimes at the expense of shareholders' interests (Useem & Karabel, 1986; Zajac & Westphal, 1996). Therefore, when CEOs are members of this elite alliance, they may find easier to obtain a job in another firm in spite of the lack of skills needed for the position

Interorganizational networks act as a safety net as well. For example, in a study of the biotechnology cluster in San Diego, Casper (2007) showed that the network formed among firms created a labor market that reduced the risk employees mobility, thereby facilitating the re-employment of managers of failed start-ups. This evidence suggests that CEOs may have incentives to establish interorganizational ties to other firms in anticipation of future risks.

These pieces of network research shows how valuable interorganizational and interpersonal networks are for CEOs in order to have access to outside job opportunities.

2.2.4 Networks as an entrenchment strategy

Network research extended the long-held view of agency scholars that CEOs work for securing their positions in the firm and sometimes against shareholder interests. Interorganizational and interpersonal ties within networks may be part of CEOs entrenchment strategy: the power, prestige, and influence enjoyed by well-connected CEOs overrule governance controls, making them less likely to be dismissed for bad performance. However, both agency and network literatures see managerial entrenchment as a firm-level phenomenon: that is, entrenchment is conceived as a set of activities performed by CEOs to remain in their original firm when bad performance comes out. In this framework, a question arises: Will managers desist entrenching themselves when their firms' governance structures are sufficiently developed in order to limit managerial discretion? Corporate governance research has shown that there are effective corporate control mechanisms that prevent managerial entrenchment. Independent boards and the presence of large shareholders are two of these mechanisms (Davis, 1991; Mizruchi, 1983). As the number of outsiders serving on the board of the focal firm increases, the ability of management to adopt external defense practices, such as golden parachutes (Wade et al., 1990) and poison pills (Davis, 1991), diminishes. Besides, the presence of large shareholders confers owners higher incentives and power to remove managers if they make decisions that deviate from owners' interests (Walsh & Seward, 1990). Hence, in a context of

well-developed corporate control mechanisms, CEOs need to protect themselves by adopting other initiatives. Among these alternative initiatives, the view of networks as an exit strategy may provide a broader approach to study managerial entrenchment. In particular, managers can orchestrate a network of firms as a safety net strategy, especially in those firms where intrafirm entrenchment strategies are difficult to implement due to well-developed internal corporate governance mechanisms. In this case, when their respective firms perform poorly, managers will take advantage of the network they have built to move to other firms.

By analogy to the decreased CEO turnover in response to bad performance, which is a proxy of firm-level managerial entrenchment (e.g., Denis, Denis, & Sarin, 1997), our concept of network-level entrenchment implies that we should observe high sensitivity of CEO turnover to performance at the focal firm level (i.e., which is indicative of an absence of traditional entrenchment). However, when CEO turnover is measured at the network level, such sensitivity should be reduced. Therefore, even if the board or shareholders can dismiss managers for unsatisfactory performance, these managers will have the option to move to a tied firm.

We therefore hypothesize that networks may be considered for entrenchment purposes when two conditions are simultaneously met: strong internal corporate governance mechanisms and poor expected future financial performance. Figure 1 provides a representation of the different scenarios that can be traced by if we consider different levels of expected performance and internal corporate control.

Insert Figure 1 about here

Quadrant I corresponds to the situation of traditional managerial entrenchment. Given the laxity of internal control (i.e., lack of independence of the board and ownership dispersion), in anticipation of poor performance, which may be caused by inappropriate managerial actions, CEOs may avoid being fired by adopting entrenchment practices such as poison pills, golden parachutes, anti-takeover amendments, and so on. As we move from Quadrant I to II in the figure, both the strength of internal governance and firm performance increase. In this case, CEOs are likely to be more closely monitored, but they do not feel the pressure to adopt entrenchment initiatives, as expected performance figures conform to shareholder

expectations. A similar conclusion can be inferred from Quadrant III. Although there is room for engaging in an entrenchment strategy because of the weakness of internal control structures, the expectation of good performance makes it less necessary given the expected negative impact on performance of adopting entrenchment initiatives (e.g., Davis, 1991). Finally, quadrant IV describes a situation of declining firm performance combined with strong internal control. This scenario may obey to different reasons. The simplest reason may be executives' mismanagement. But it may also be the case that, even when managerial activity is directed toward profit maximization, a firm gets bad results because of different factors beyond CEOs' control such as industry shocks. Another reason may be the malfunctioning of internal control structures. For example, the monitoring role of boards increases with the independence of their members, but at the cost of worsening strategic advice and greater managerial myopia. In certain contexts, these costs may outweigh the benefits of improved control (Faleye, Hoitash, & Hoitash, 2011). In case of ownership concentration risks, the main problem is the conflict between large and small shareholders, which may result in minority expropriation by large shareholders (Shleifer & Vishny, 1986).

The important point to make is that irrespective of the causes of bad performance, CEOs may appear in front of business audiences as the ultimate responsible, so their replacement is highly likely. In this context CEOs have incentives to work to defend their job, but the close scrutiny of internal structures makes it difficult for CEOs to adopt entrenchment practices within their firms. The result is that CEOs will be more likely to be dismissed for bad performance when boards are dominated by outside directors (Bhagat & Bolton, 2008; Weisbach, 1988) or when firms are controlled by large shareholders (Denis et al., 1997). Therefore, the increased internal discipline strengthens the career concerns of CEOs, who may react to this job uncertainty by seeking new entrenchment strategies beyond the boundaries of their firms.

Interlocking directorates create an ideal context for the perpetuation of management dominance (Davis, 1991), because they allow CEOs to build a network of personal ties that are difficult to neutralize. The presence of CEOs in outside boards gives them a unique position to exploit cross-firm differences in internal control structures between focal and receiving firms. In a context of high shareholder pressures at the focal firm, CEOs have all incentive to take advantage of eventual receiving firms weaker control structures than those of focal firms and use their personal relationships to be appointed as executive of such receiving firms. With this change, CEOs will

escape the control of focal firms' internal governance structures and benefit from the weaker control of receiving firms. This argument parallels the reasoning behind the decision of many multinational companies to arbitrage their operations, particularly those deemed less acceptable, across countries and leverage location-based advantages related to the laxity of host countries' institutional environment (Surroca, Tribó, & Zahra, 2013).

Moreover, ideal targets for CEOs board memberships are firms located in another industry of the focal firm. As the focal CEOs' network of alliances expands to other industries, the task of receiving firm's shareholders to monitor newly-appointed CEOs becomes increasingly difficult (Geletkanycz & Boyd, 2011), which give larger discretion to the new CEOs. Thus, the decision of CEOs to create this kind of linkages is more likely to obey to personal interests rather than to shareholders' interests at both the focal and receiving firms. These interests may be related to the reduction of employment risk (Westphal & Zajac, 1997), but also to the prevention of reputational losses connected to bad performance in the focal firm. In this sense, research on deviance and networks suggests that it is more likely to avoid possible stigma of deviant acts (e.g., deviate from shareholder interests) in sparsely-connected networks like those formed among units located in different industries (Baker & Faulkner, 1993; Brass, Butterfield, & Skaggs, 1998). These arguments may explain why capital market reacts negatively to announcements of CEOs' appointments as board members of firms located in other industries (Geletkanycz & Boyd, 2011). Consequently, we expect:

> *Hypothesis 1. Increased firms' internal control combined with low performance prospects increases the likelihood of CEOs holding additional directorships in firms located in other industries and with an internal control weaker than that of the focal firm.*

Besides, for network entrenchment to take place, it is necessary that when the prospects of poor performance turn out to be a reality, CEOs of focal firms will move to firms that are part of their social network. Therefore, we predict:

> *Hypothesis 2. Poor realized performance of firms with CEOs serving in different boards increases the likelihood of CEOs' appointment in firms within CEOs' directorship network.*

2.3 Methods

2.3.1 Data sources and sample

We developed a unique dataset by combining three databases: OSIRIS, EXECUCOMP, and I/B/E/S. OSIRIS provides data on financial and ownership structure. This is a database compiled by Bureau van Dijk and provides information on finance, ownership, and earnings for 38,000 companies from over 130 countries. Our interest in including ownership data is justified by the need of constructing a variable of corporate governance. We took advantage of the identification numbers conferred by Osiris to every firm, CEO, and director to map out the extensive social networks formed by CEOs and directors. From EXECUCOMP, we gathered information on Board Size, CEO Education, CEO Age, CEO Tenure, and CEO Compensation. Finally, I/B/E/S provided us with information on analysts' recommendations. In particular, from I/B/E/S we obtained information on analysts' consensus of two years ahead Earnings per Share.

The sample resulting from combining these three databases is an incomplete panel of 4,007 US firms with 18,369 observations over the period 2004–2012. Also, in order to reduce problems of skewness and Kurtosis, we winsorized firm-level control variables at the 5th and 95th percentile levels.

2.3.2 Dependent variables

The estimation of the effect of performance on a firm's entrenchment policy contingent on its corporate governance is made relying on the following variables (see Appendix I).

CEO's additional outside directorships. This is the dependent variable for the initial stage of analysis. This variable is a dummy that takes the value of 1 if the CEO becomes a board member in a firm from a different sector and with corporate governance lower than that of focal firm.[1] The value of this variable is 0 otherwise.

CEO Change within the CEO Network. This is the dependent variable of the second stage of the analysis. This variable is a dummy that takes the value of 1 if the CEO

[1] The industry grouping was done by the firm's 2-digit SIC codes.

found a job in those firms tied with the focal firm through the presence of the CEO in the board. In other situations, this variable gets the value of 0.[2] We also analyze the specific case of CEO changes within its network with clear entrenchment intentions through the variable **CEO *Entrenchment Change within the CEO Network*.** This variable is a dummy equal to 1 if ***CEO Change within the CEO Network*** is equal to 1 and the receiving firm operates in a different sector and has lower corporate governance than the focal one. In other situations this variable is equal to 0.

2.3.3 Hypotheses-testing variables

Corporate governance strength. We construct an index from three widely researched dimensions that capture different aspects of a company's corporate governance, namely: Outside director percentage, Non-CEO duality and Top10 shareholders stake (e.g. Weisbach, 1988; Finkelstein and D'Aveni, 1994; Sheleifer and Vishny, 1997)**.** We take different dimensions that capture the development of a firm's corporate governance. In particular, we apply factor analysis method that unidimentionally searches for the joint variation in response to the quality of corporate governance among these variables. For some interaction terms, we define the dummy *D_Corporate Governance strength*, which is equal to 1 (0) if *Corporate Governance strength* is above (below) the mean of the sector for the corresponding year.

Negative analyst appraisals. We used two alternative measures of expected performance: analysts' recommendations and expected earnings per share (EPS). *Negative earnings forecasts.* We approach the expected performance through the expected earnings per share (EPS). In particular, we take the two-year forward analysts consensus of EPS as collected by I/B/E/S. Then, we deflate this value with the actual EPS and compare this ratio with the mean of the sector and year. For values lower (higher) than this latter mean, the variable of *Negative earnings forecasts* takes the values 1 (0). *Negative stock recommendations*. This variable accounts for the recommendation of analyst at year t-1 (higher means "sell") as provided by I/B/E/S. The values move from 1 to 5.

Realized poor performance outcomes. This is a dummy variable that is equal to 1 when 2 conditions are met. First, when there is a decrease in focal firm's ROA from period t-1 to period t. Second, when the growth of ROA is lower than that of the mean of sector and year. In other situation this value is 0.

[2] See Appendix II for an example of a real CEO change within its network.

Management network. *CEO network* is the number of CEO outside directorships. *Board network* is the number of outside directorships in other firms held by directors (excluding CEO) of the focal firm.

2.3.4 Control variables

CEO-level control variables. CEOs' human capital has been seen as an important driver of CEO appointments in other firms (e.g., Geletkanycz & Boyd, 2011). *CEO education* is coded 1 if CEOs hold a master's degree or a Ph.D., and 0 otherwise. Other factors affecting the number of outside directorships held by the CEO are *CEO age*, measured by the current age of CEOs and *CEO tenure*, which is the number of years since CEOs took office (Booth & Deli, 1996). In the case of CEO age, we expected that, as CEOs approach to retirement, they might hold more outside directorships. Concerning to CEO tenure, this variable is a standard proxy of firm-level entrenchment. Finally, we controlled for *CEO compensation*, measured as the ratio of variable compensation to total compensation as a proxy of CEOs incentives to avoid opportunistic behavior.

Firm-level controls. We included a number of measures that prior research has suggested may be important determinants of CEO interlock ties. *Board Size* is the number of board members of the focal firm, which is a determinant of managerial entrenchment (Raheja, 2005). *Firm performance* is measured by ROA. We approach *firm size* through the log of total assets. CEOs of larger firms have more resources and influence to build up their own network. Analyses also controlled for *firm leverage*, using the ratio of total debt to total assets. According to the free-cash flow hypothesis developed by Jensen (1986), leverage complements internal corporate governance mechanisms to control CEOs and limit their discretion in the focal firm.

Industry-level controls and temporal-level controls. Finally, we controlled for industry and temporal effects. The likelihood of being appointed as board member of another firm is contingent on the industry origin of focal CEOs as well as the moment of the economic cycle. For example, most industrial firms appoint bank officials as board members for capital allocation reasons (Mizruchi, 1996), particularly in recessions. We therefore controlled for this potential source of unobserved heterogeneity by including industry dummy variables (at 1-digit SIC code) as well as temporal dummy variables.

2.3.5 Analysis

The categorical nature of our dependent variables has led us to employ logit estimation techniques in testing the hypotheses. For robustness purposes, we also took advantage of the panel data structure of our data and conducted fixed-effect estimations by adopting a conditional logit approach (Wooldridge, 2010). To test Hypothesis 1, on the effects of corporate governance pressures and bad performance expectations on the promotion of network-level entrenchment, we used the following specification:

$$\begin{aligned} &\textit{CEO's additional outside directorship}_{it} \\ &\quad = \alpha_1 + \alpha_2\, \textit{Corporate governance strength}_{it} + \alpha_3\, \textit{Management network}_{it} \\ &\quad + \alpha_4\, \textit{Negative analyst appraisals}_{it-1} \\ &\quad + \alpha_5\, \textit{Negative analyst appraisals}_{it-1} \times \textit{Corporate governance strength}_{it} \\ &\quad + \alpha_6\, \textit{CEO controls}_{it} + \alpha_7\, \textit{Firm controls}_{it} + \alpha_8\, \textit{Industry controls}_{it} + y_t + \eta_i + \varepsilon_{it}. \\ &\quad (1) \end{aligned}$$

Subscripts *i* and *t* indexed firms and time periods, respectively. Previous specification incorporates temporal dummy variables (y_t) as well as two additional error terms, η_i and ε_{it}. A firm-specific component of the error term (η_i) was included to account for the firm-specific unobservable heterogeneity that may be correlated with independent variables. For example, managers' specific characteristics (e.g., their degree of risk aversion) could simultaneously affect future performance and the effectiveness of the firm's corporate governance system as well as the adoption of a network-level entrenchment strategy. Additionally, we measured *negative analyst appraisals* at $t - 1$ to tackle its potential reverse causality problem with the CEO entrenchment strategy. Finally, ε_{it} $\varepsilon_{it}$is a random-noise residual. Using this specification, Hypothesis 1 would be supported if α_5 is positive as well as the sum of $\alpha_4 + \alpha_5$ is positive.

To test Hypothesis 2, which predicts a re-employment of resigned/dismissed CEOs within the network they created before bad performance comes out, we estimated the following specification:

$$\begin{aligned} &\textit{CEO changes within the CEO network}_{it+1} \\ &\quad = \beta_1 + \beta_2\, \textit{Corporate governance strength}_{it} + \beta_3\, \textit{CEO network}_{it} \\ &\quad + \beta_4\, \textit{Negative analyst appraisals}_{it} + \beta_5\, \textit{Poor realized performance outcomes}_{it} \end{aligned}$$

$$+ \beta_6 \, Negative\ analyst\ appraisals \times Corporate\ governance\ strength_{it}$$
$$+ \beta_7 \, Poor\ realized\ performance\ outcomes \times Corporate\ governance\ strength_{it}$$
$$+ \beta_8 \, Negative\ analyst\ appraisals \times CEO\ network_{it}$$
$$+ \beta_9 \, Poor\ realized\ performance\ outcomes \times CEO\ network_{it}$$
$$+ \beta_{10} \, CEO\ controls_{it} + \beta_{11} \, Firm\ controls_{it} + \beta_{12} \, Industry\ controls_{it} + y'_t + \eta'_i$$
$$+ \varepsilon'_{it}. \quad (2)$$

In estimating this second specification, we restricted the sample to those firms that have appointed a new CEO. Then, in order to avoid finding inconsistent parameters and identification problems, before estimating this specification we estimated a model in which the dependent variable was the probability of CEO turnover, using as regressors the same variables as (2) without the interaction terms (which are drivers of the CEO network-level entrenchment strategy). From this intermediate model, we computed the mills ratio (Greene, 2012), which was included in the definitive estimation of specification (2). Support for Hypothesis 2 would therefore require the coefficient β_5 *and* β_9 to be positive.

2.4 Results

Tables 1 report descriptive statistics as well as the correlation matrix. Data shows that firms in our sample undertake a network entrenchment policy in 2% of the cases, which is not surprising given that they have a mainly positive economic outlook (all variables that capture realized negative performance and negative expected performance have a mean value below the middle point of their range of variability). Firms in the sample have almost 6 linkages among the overall board members and their CEOs have a mean of 0.3 linkages in other boards with a maximum of 6 positions. Boards have a mean of 8.4 members, CEOs are, on average, 54.4 years old and their tenure is almost 5 years long. In terms of size and profitability, firms in the final sample have a mean of $2.37 billion and a ROA of 2.2%, hence they are large firms with a ROA not particularly high, which is standard in mature firms. Concerning to multicollinearity issues, data shows that all VIF are well below the threshold of 10 that is considered a signal of multicollinearity problems. This is confirmed when we compute the conditional number that has a value of 15.5, well below the threshold of 30.

Correlation matrix shows that expected performance (*Negative earnings forecasts* and *Negative stock recommendations*) are positively correlated to the development of an

Entrenchment Network (2% and 3% respectively, which are significant at 10%), while the realized poor performance has a negative effect. Remarkably this latter variable (*Realized poor performance outcomes*) has a significant positive effect on CEO changes within the network (2% -significant at 10%). Thus, it seems that expect bad performance triggers entrenchment network development while realized bad performance is what affects CEO changes among the network but not the development of the network. We are going to analyze this conjecture once we estimate specifications (1) and (2).

Insert Tables 1 and 2 about here

2.4.1 Tests of hypotheses

The results of the estimation of equation 1 are summarized in Table 2. In Model 1, we show the result using *Negative earnings forecasts* variable, while in Model 2 we use as a proxy of expected bad performance *Negative stock recommendations*. Model 1 shows that well-developed firms' corporate governance stimulate the development of CEOs' additional outside directorships ($\alpha_2 = 0.46,\ p < .001$) through the creation of new ties with the presence of focal firms' CEOs in the boards of firms operating in a different sector and with a lower corporate governance than that of focal firms. The variable *Negative earnings forecasts* shows a different pattern contingent on the strength of firm's corporate governance. When firms' corporate governance is low developed (below the mean of the sector and year), the effect of *Negative earnings forecasts* is negative ($\alpha_4 = -0.30,\ p < .01$), that is, worse expected performance precludes the development of an entrenched network. We can argue that in this situation there is scope for CEOs to implement a firm-level entrenchment policy rather than a network entrenchment one. Remarkably, when this strategy is not possible given that firms' corporate governance strength is high (above the mean of the sector and year), CEOs develop their entrenchment network strategy (sum of the coefficients *Negative earnings forecasts* + *Negative earnings forecasts* × *D_Corporate Governance strength* = $\alpha_4 + \alpha_5 = -0.30 + 0.46 = 0.16,\ p < .01$). Such result is confirmed once we conduct the conditional logit estimation in Model 3 ($\alpha_4 + \alpha_5 = -0.51 + 065 = 0.14,\ p < .01$). Hence, we can argue that there are two regimes on firms' entrenchment policy that are separated by the strength of their corporate governance. When such corporate governance is low, a prospectus of bad

performance leads CEOs to implement an entrenchment policy at a firm level. However, when this is very costly due to the existence of a well-developed corporate governance system, a network-level entrenchment policy is implemented. This latter result on network entrenchment is confirmed when we use the second proxy for expected performance (*Negative stock recommendations*) –see Model 2, and when we conduct conditional logit estimations (Models 3 and 4). This result conforms to Hypothesis 1.

Results regarding the second stage that analyze the probability of CEOs changes within CEOs network with estimation of specification (2) are depicted in Table 3. In Models 1 and 2 we focus on the specification that includes those variables that capture low expected performance (*Negative earnings forecasts*, *Negative stock recommendations*), while in Models 3 and 4 we focus on the variable of realized performance (*Realized poor performance outcomes*). In Models 1-3, the dependent variable is *CEO changes within CEO network*, while in Model 4, we focus on those specific changes within CEOs network with clear entrenchment intentions (to firms in a different sector and with a lower corporate governance than the focal firm). Result shows that bad expected performance results have no effect on CEOs changes within their network (Models 1 and 2). Remarkably, when such bad expectations on performance are confirmed in bad results, the effect appears. In particular, bad evolution in firms' ROA (worse than the mean of the sector) - *Realized poor performance outcomes* - has a positive impact on CEOs changes within the CEOs network built (β_5= 2.12, $p < .05$). Remarkably, this result is even stronger when we focus on CEOs changes with the CEOs network with clear entrenchment intentions (β_5=10.19, p<.05 in Model 4). Such results conform to Hypothesis 2. Also, *Realized poor performance outcomes* is positively moderated by *CEO network* variable, that is, the larger the number of links in CEOs network, the larger the effect of *Realized poor performance outcomes* as a determinant of CEOs changes within their network (β_9 =5.05, p<.05). By the same token, the larger the number of links among non-CEO board members, the less likely that bad performance generates CEOs changes within their own network (β_9 =-1.8, p<.01). In this case, we arguably expect that CEOs change will mainly be within the board network but not within CEOs network.

It is important to highlight that differently to bad actual performance, bad expected future performance (Models 1 and 2) has no effect on CEOs changes within CEOs network. The effect of (bad) expected future performance is on the construction of CEOs' additional outside directorship as we have shown in Table 2 but not on

triggering CEOs changes within CEOs network. Such triggering relies on bad *current* performance but not on expectations.

Insert Table 3 about here

2.4.2 Robustness checks

Endogeneity. To provide further robustness to our results we run a series of robustness tests. One potential challenge for interpreting our results is the issue of endogeneity, including simultaneity and the omission of important (unobservable) variables. This problem has been partially tackled as we have considered a parsimonious specification with a wide set of explanatory variables. In addition, we have conducted conditional logit estimations (Models 3 and 4 in Table 2), which eliminate the firm-specific component of the error term potentially correlated with explanatory variables. Then, the remaining error terms in the specifications have low structure and should be low correlated with explanatory variables. However, to eliminate to a further extend this problem, we have instrumented the variable of expected performance given that firms' entrenchment policy does not happen randomly and it is expectedly to be closely connected to a firm's expected performance. In the spirit of Laeven and Levine (2009) and Chen et al. (2013), we generate instruments by calculating the mean sector level of expected performance (excluding the contribution of the focal firm). The intuition is that a focal firm's expected performance is likely to be influenced by the strategies leading to different expected performances of other firms in its industry. Because the contribution to the level of expected performance by the focal firm is excluded, the instrument varies across firms. Furthermore, the mean expected performance of the other firm in the sector is unlikely to be correlated with the entrenchment strategy defined by the focal firm. Hence, the two conditions for a good instrument are met. Taking into consideration that the reverse causality that moves from entrenchment to low expected performance is positive, then, when this reverse effect is eliminated, the coefficients of low expected performance (*Negative analyst appraisals)* should be less positive. This is what is found in the specification that uses *Negative stock recommendations* as a proxy of expected bad performance, where the coefficient of this variable moves from neutral when there is no instrumenting ($\alpha_4 = 0.06$ in Table

2) to negative ($\alpha_4 = -0.26$) when we use the aforementioned instrument.[3] Such coefficient confirms the result that bad expected performance combined with low corporate governance does not stimulate network entrenchment but firm-level entrenchment. Network entrenchment only appears when both elements are present (bad expected performance and high internal corporate governance).[4]

Non-parametric Estimation. We have inspected the relationship between performance and entrenchment without making the assumption of a linear relationship between these variables. We apply a nonparametric (distribution free) procedure to make this analysis. Nonparametric estimation methods allow us to evaluate, without assumptions on the underlying distribution, the impact on network entrenchment of applying a "shock" related to changes in expected performance in two scenarios, namely, when corporate governance is low (below the mean of the sector and year) – the control group- and, alternatively, when it is high (above the mean of the sector and year), which is the treatment group. Firms in both groups are selected according to their similar characteristics over firm-level control variables (Size, ROA, Leverage, sector and year). The "shock" applied is a decrease in expected performance (*Negative earnings forecasts*) from above the mean of the sector and year to below this mean. The procedure we used to examine this impact is the Propensity Score Matching (PSM) estimator (Hirano & Imbens, 2005). Results indicate a significantly larger impact on network entrenchment in the treatment group ($\alpha_4 = 0.50$) in comparison to the control group ($\alpha_4 = -0.01$), which is consistent with the results found under the parametric estimation.

Missing Information. A third concern is that the missing data may generate a bias in the estimations. We have investigated whether those focal firms that show a larger proportion of missing data (no information on corporate governance and/or performance and/or board composition during more than 2 years of our sample period) present significant differences in the main explanatory variables with other firms. We have not found (untabulated) significant differences between the two groups.

Winsorization. Concerning the use of winsorization, in our benchmark approach, we winsorize firm-level control variables at the bottom and top 5% of their distributions.

[3] We have not instrumented the other proxy of expected performance (*Negative earnings forecasts*) because this is a dummy variable defined in terms of the mean EPS of the sector and there is no sense to use as an instrument the mean of this dummy at a sector level.

[4] We have not tackled endogeneity issues in specification (2), because we do not expect that realized CEO changes will have an impact on a focal firm's current performance but on the future performance once a new CEO is appointed.

Once we use raw data, the result found are very similar to those reported in the manuscript.

2.5 Discussion

In this study, we approached the entrenchment phenomenon departing from the traditional view centered in the firm and adopting a network perspective. Traditionally, entrenchment has been analyzed by taking the firm as a unit of analysis; however, as firms are increasingly connected through different ties involving not only CEOs but also different board members, the natural unit of analysis is moving from the firm to the network. Under this network approach, we aimed at explaining the decision of CEOs to establish linkages to firms with loose internal governance structures and that they are located in sectors unrelated to the focal firm. Our point is that agency and network perspectives altogether may be helpful in understanding such network-building activity. In particular, we predicted that CEOs are members of outside boards to enhance their employability in case of being dismissed from their focal firms.

In this setting, our objective was to examine the determinants that lead CEOs (1) to participate in outside boards and, then, (2) to be appointed as CEOs of firms of the network they have previously created. Such CEOs re-employment within their directorship network in case of bad performance in their focal firm is evidence supporting our concept of CEOs network-level entrenchment. In other words, if managerial entrenchment at the firm level is defined by means of a low sensitivity between firm performance and CEOs turnover, network-level entrenchment implies a low sensitivity between focal firms' performance and CEOs turnover at a network level. The key element in explaining CEOs re-employment within their social network is the degree of development of focal firms' internal corporate governance. When internal governance mechanisms are weak, managers have enough discretion for implementing a firm-level entrenchment strategy after bad performance. However, when internal governance mechanisms are well developed, CEOs cannot implement traditional firm-level entrenchment strategies and have to adopt a network approach to secure their job. Under this approach, CEOs' objectives are not to entrench their position within the firm but within the network to which the focal firm belongs.

Using a panel data of 4,007 US firms for the period 2004–2012, we showed that the

implementation of a network entrenchment policy entails two stages: First, when there is a perspective of bad future performance, CEOs create ties at a board level with firms in different sectors and with a loose corporate governance. Such strategy can be interpreted as a potential CEO exit option if the previous bad perspectives are confirmed in the future. If this is the case, CEOs definitively move to firms where their past management record is more difficult to be tracked given that the new firm competes in a different sector from the original one and it has less developed internal corporate control mechanism. In such second stage, our findings supported that when a firm's ROA evolves in a worse way than that of the sector, CEOs are more likely to change to firms within the network that CEOs have created in the past and particularly to those firms located in a different sector whose internal governance structures are weaker than that of the focal firm. Also, such changes are more likely to happen when CEOs' networks have a large number of ties with the focal firm. This latter situation reinforced the view that CEOs were implementing an entrenchment strategy in the first stage.

2.5.1 Implications

We have proposed a new way of looking at the entrenchment phenomenon, which is through the lens of networks. By adopting a network perspective, we have been able to identify that certain practices of unrelated diversification can be explained in terms of a network-based entrenchment strategy, particularly—and paradoxically—when focal firms' internal governance structure is well developed. Thus, shareholders should be particularly aware of preventing the development of this kind of unrelated connections when implemented in a context of bad expected performance. Hence, certain calls by CEOs to enter in unrelated markets, as a hedging strategy when economic perspectives are bad, may be very damaging as a part of a value-destroying network entrenchment strategy.

In this context, we provide a warning signal over the suggestion made by some scholars (e.g., Geletkanycz & Boyd, 2011) that control over managers should be relieved when their firms are on the edge of bankruptcy. It is in this context when managers are more eager of using networks as an entrenchment tool, which may explain why managers' entrenchment agency behaviors could increase company bankruptcy (e.g., Daily & Dalton, 1994).

The approach we adopted may be also useful for analyzing other phenomena like

certain expropriating strategies. CEOs of some focal firms may not expropriate directly their minority shareholders but create a network to expropriate minority shareholders of other firms with the connivance of the CEOs of these other firms. In compensation for their complicity, these latter CEOs are allowed to expropriate minority shareholders of the focal firm. In this case the network may be used as a cross expropriating tool among CEOs of the firms in the network that, in the end, reinforce CEOs mutual positioning within that network (global network entrenchment strategy).

Another contribution that can be derived from our analysis is a taxonomy of network structures that complements the traditional view of networks as structures that provide externalities to focal firms. We argue that certain heterogeneous structures in networks can also be explained in terms of CEOs' exit option that opens the possibility for CEOs to be entrenched at a network level.

Our analysis can also be applied to other relevant events like CEO replacement and may help explaining certain dynamics within board members among the potential candidates to succeed a CEO. Those candidates may start implementing their own network entrenchment strategy before being promoted as CEOs. Then, shareholders should be aware of this phenomenon and should avoid promoting as CEOs those managers that seat in the boards of firms in different sectors and that come, paradoxically, from a firm with a stronger corporate governance than the firm that plans to change its CEO.

2.5.2 Limitations and future research

Our study has several shortcomings that suggest future research opportunities. First, we have limited our analysis up to a second layer in the network structure. Then, a more complete picture of the network will provide more insights and nuances of the connection between performance, internal corporate governance, and CEOs' entrenchment strategies. Second, we have constrained our analysis to CEOs. However, it may be of major interest to study the behavior of other board members with fiduciary duties in order to control the CEOs. Such analysis would provide new insights to explain certain expropriating practices among the firms in a network. Another possible extension would be to include the typology of shareholders in the analysis. The inclusion of the type of shareholder might foreseeably have an important effect in the possibility to implement and develop entrenchment strategies.

Finally, our sample is of US companies. The inclusion of companies from other countries would allow conducting an institutional analysis. The investigation of these issues is left for future research.

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TABLE 1
Pearson's Correlations [a]

	Variable	Mean	S.D.	VIF	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Network entrenchment	0.02	0.14	1.01															
2.	CEO changes within CEO Network	0.00	0.03	1.00	.00														
3.	Corporate governance strength	0.16	0.81	1.04	.05	.00													
4.	Negative earnings forecasts	0.49	0.50	1.38	.02	.01	–.07												
5.	Negative stock recommendations	2.24	0.60	1.06	.03	.00	.06	.01											
6.	Realized poor performance outcomes	0.31	0.46	1.05	–.02	.02	.04	–.19	.04										
7.	Board Network	5.82	5.07	1.52	.08	.01	–.09	.09	.09	.00									
8.	CEO Network	0.30	0.66	1.15	.03	–.01	–.05	.05	.03	.01	.31								
9.	Board Size	8.36	2.43	1.5	.04	–.01	–.04	.14	.10	–.03	.45	.11							
10.	CEO Age	54.43	7.68	1.14	–.01	–.01	–.07	.07	.01	.01	.02	.15	.06						
11.	CEO Tenure	4.94	5.18	1.14	–.04	–.03	.02	.03	–.02	.01	–.11	.09	–.09	.29					
12.	CEO Education	0.13	0.34	1.04	.00	.00	–.04	–.05	–.01	–.02	.07	.04	–.01	–.05	–.02				
13.	CEO Compensation	0.57	0.26	1.13	.04	.01	–.07	.11	.02	–.08	.24	.06	.21	–.05	–.12	.06			
14.	ROA (%)	2.20	17.33	1.53	.02	.00	–.02	.49	–.04	–.08	.07	.05	.13	.07	.05	–.09	.09		
15.	Size (Billion $) [b]	2.37	3.49	1.64	.07	.01	–.09	.27	.20	.01	.44	.19	.51	.10	–.07	–.07	.28	.35	
16.	Leverage	0.51	0.29	1.19	.02	.01	.02	–.04	.10	.04	.16	.07	.17	.03	–.05	–.06	.07	–.14	.29

[a] $n = 18{,}369$. Correlation coefficients between .02 and .03 are significant at $p < .10$; greater than .03 and less than .04, at $p < .05$; and values greater or equal than .04 are significant at $p < .01$.

[b] For comparability, mean values of Size are not reported in a log scale.

TABLE 2. Results of Logit Estimations Predicting Network-level Entrenchment [a]

Independent variables	Network entrenchment (CEO's additional outside directorship)							
	Model 1 (Logit)		Model 2 (Logit)		Model 3 (Conditional Logit)		Model 4 (Conditional Logit)	
Hypothesis-testing Variables								
Corporate governance strength	.46**	(.08)	.43**	(.10)	.72**	(.15)	.66**	(.17)
Board Network	.05**	(.01)	.05**	(.01)	.04†	(.02)	.044†	(.02)
CEO Network	.14†	(.07)	.14†	(.07)	–.51**	(.11)	–.52**	(.11)
Negative earnings forecasts	–.30†	(.17)			–.51*	(.22)		
Negative stock recommendations			.06	(.11)			–.03	(.17)
Interaction terms								
Negative earnings forecasts × D_Corporate Governance strength	.46*	(.19)			.65**	(.24)		
Negative stock recommendations × D_Corporate Governance strength			.14*	(.07)			.20*	(.09)
CEO-level controls								
CEO Age	–.05	(.07)	–.05	(.07)	.09	(.17)	.06	(.17)
CEO Tenure	–.30**	(.08)	–.30**	(.08)	.13	(.15)	.13	(.15)
CEO Education	–.03	(.05)	–.03	(.05)	.02	(.08)	.03	(.08)
CEO Compensation	.07	(.08)	.08	(.08)	–.04	(.11)	.01	(.11)
Firm-level controls								
Board Size	–.13	(.09)	–.14	(.09)	–.76**	(.20)	–.72**	(.20)
ROA	.11	(.12)	.15	(.11)	.19	(.21)	.16	(.19)
Size	.95**	(.15)	.92**	(.15)	1.28†	(.73)	1.25†	(.72)
Leverage	.25	(.25)	.22	(.25)	.59	(.75)	.69	(.74)
Intercept	–5.46**	(.32)	–5.81**	(.39)				

Independent variables	Network entrenchment (CEO's additional outside directorship)							
	Model 1 (Logit)		Model 2 (Logit)		Model 3 (Conditional Logit)		Model 4 (Conditional Logit)	
Model statistics								
Pseudo R^2	.09		.09		.13		.12	
Goodness-of-fit of the model (Wald test)	327.29	(.00)	327.55	(.00)	159.43	(.00)	147.01	(.00)
Number of observations	18,369		18,369		2,136		2,136	

[a] Robust standard errors are in parentheses. All tests are two-tailed. $^{\dagger}\ p < .10$, $^{*}\ p < .05$, $^{**}\ p < .01$

TABLE 3
Results of Logit Estimations Predicting CEO Changes [a]

Independent variables	CEO change within CEO Network						CEO entrenchment change within CEO Network	
	Model 1		Model 2		Model 3		Model 4	
Hypothesis-testing Variables								
Corporate Governance strength	.05	(.35)	.32	(.44)	.03	(.32)	.29	(.65)
Board Network	–.09	(.08)	–.34	(.23)	–.01	(.05)	–.12	(.38)
CEO Network	1.02**	(.26)	2.06*	(1.05)	.80**	(.22)	.27	(.23)
Negative earnings forecasts	.15	(.84)						
Negative stock recommendations			.37	(.62)				
Realized poor performance outcomes					2.12*	(1.12)	10.19*	(4.50)
Interaction terms								
Negative earnings forecasts × D_Corporate Governance strength	.64	(.73)						
Negative stock recommendations × D_Corporate Governance strength			.46	(.29)				
Realized poor performance outcomes × D_Corporate Governance strength					1.02	(1.03)	2.39	(1.48)

	CEO change within CEO Network						CEO entrenchment change within CEO Network	
Independent variables	**Model 1**		**Model 2**		**Model 3**		**Model 4**	
Negative earnings forecasts × Board Network	.01	(.10)						
Negative earnings forecasts × CEO Network	–.12	(.38)						
Negative stock recommendations × Board Network			.09	(.09)				
Negative stock recommendations × CEO Network			–.46	(.44)				
Realized poor performance outcomes × Board Network					–1.80**	(.67)	–1.46†	(.92)
Realized poor performance outcomes × CEO Network					5.05*	(1.98)	4.53†	(2.86)
CEO-level controls								
CEO Age	.28	(.46)	.49	(.65)	–.04	(.30)	.77	(.47)
CEO Tenure	–.33	(.33)	–.33	(.40)	–.24	(.31)	–.20	(.39)
CEO Education	–.23	(.26)	.21	(.26)	–.24	(.26)	.11	(.36)
CEO Compensation	–.03	(.29)	.06	(.29)	.28	(.35)	.15	(.50)
Firm-level controls								
Board Size	.10	(.24)	.20	(.39)	–.21	(.37)	.03	(.58)
ROA	–.03	(.43)	–.09	(.54)	.32	(.62)	–.51	(1.46)
Size	.08	(.50)	.25	(.53)	.61	(.63)	1.46	(1.02)
Leverage	.36	(.44)	.23	(.47)	–1.15	(1.36)	–.06	(1.83)
Mills ratio	.21	(.15)	.22	(.23)	.34	(.44)	1.04	(.90)
Intercept	–8.21*	(3.25)	–8.82†	(5.35)	–3.98**	(1.51)	–12.55**	(3.64)
Model statistics								
Pseudo R^2	.13		.14		.22		.22	
Goodness-of-fit of the model (Wald test)	33.88	(.05)	39.85	(.01)	52.79	(.00)	49.34	(.00)
Number of observations	1,999		1,999		1,999		1,999	

[a] Robust standard errors are in parentheses. All tests are two-tailed. . † $p < .10$, * $p < .05$, ** $p < .01$

FIGURE 1
From Firm-level to Network-level CEO Entrenchment

Strength of internal corporate control	Level of performance of the focal firm: Low Performance	Level of performance of the focal firm: High Performance
Low Corporate Governance	QUADRANT I: Firm-level Entrenchment	QUADRANT III: No entrenchment
High Corporate Governance	QUADRANT IV: Network Entrenchment	QUADRANT II: No entrenchment

Appendix I

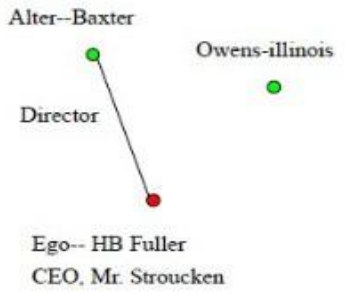
Dependent Variables:	
Entrenchment Network	Dummy equal to one if the CEO takes an additional new position in the board of a firm from a different sector (grouped by 2-digit SIC) and with corporate governance lower than his current focal firm, equal to zero otherwise.
CEO change within CEO Network	Dummy equal to one if the CEO finds an executive job from personal preexisting interlocks or form the firms interlocked with the firms where the CEO sits on the board in the following two years after departure, equal to zero otherwise.
CEO entrenchment change within CEO Network	Dummy equal to one if the CEO finds an executive job from personal preexisting interlocks in the following two years after departure in a firm in a different sector and with a lower corporate governance than the focal one. It is, equal to zero otherwise.
Main Explanatory Variables:	
Corporate Governance Strength	Corporate Governance score measuring: 1, outsideness; 2, shareholder concentration (in terms of top 10 shareholders percentage); 3, duality. Constructed based on factor analysis method.
Board Network	Total number of board member's (excluding CEO) interlocks
CEO Network	Total number of CEO's personal interlocks
Negative earnings forecasts	It is a dummy that is equal to 1 (0) if the two-year forward EPS deflated with the actual EPS is lower (higher) than the mean values of this ratio in the corresponding sector and year.
Negative stock recommendations	I/B/E/S consensus estimation based on the following scale: 1: Strong Buy; 2: Buy; 3: Hold; 4: Underperform; 5: Sell. In particular, the consensus recommendation appears as the mean of the assigned values as well as text. The consensus text is determined by rounding the mean value (calculated to 7 decimal places) to the nearest integer and matching it to the

	corresponding I/B/E/S text.
Realized poor performance outcomes	It is a dummy variable that is equal to 1 when 2 conditions are met. First, when there is a decrease in focal firm's ROA from period t-1 to period t. Second, when the growth of ROA is lower than that of the mean of sector and year. In other situation this value is 0.
Control Variables:	
CEO Age	Age of CEO
CEO Tenure	CEO's tenure in focal firm
CEO Education	It is equal to 1if CEO holds a Master or a Ph. D. It is 0 otherwise.
CEO Compensation	(Long-term compensation+option) /total compensation
Board Size	Number of board members
ROA	Return on total assets
Size	The logarithm of total assets
Leverage	Total liability and debt divided by total assets
Mills Ratio	Probability of CEO turnover, computed from the estimation explaining CEO replacement as defined in the main text

Appendix II

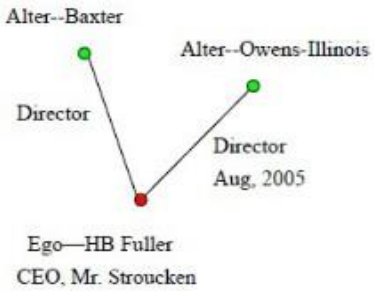
Real Cases of CEO Network Creation and Position Move in the Network

Scenario A



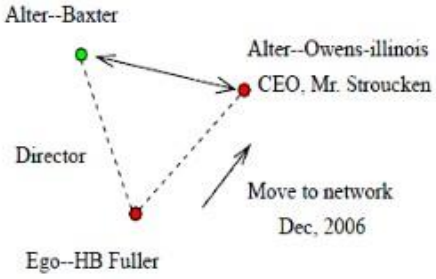
Year 2004

Mr. Albert Stroucken, served as the CEO and President of HB Fuller Co, a provider of specialty adhesives and chemical products. He also served as a Director at Baxter International Inc. since September 1, 2004.



Year 2005

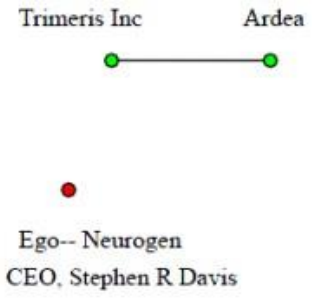
In Aug 2005, he sat on the board of Owens-illinois Inc, a glass container manufacturer.



Year 2006

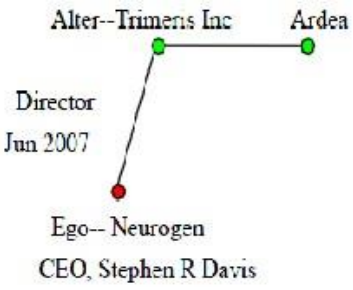
Since December 2006 he leaves HB Fuller and serves as Chairman and CEO of Owens Illinois.

Scenario B



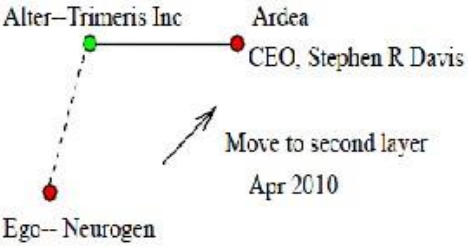
Year 2006

Mr. Stephen R Davis served as a Director, Vice present and then President, Chief Executive Officer of Neurogen Corporation since 2001.



Year 2007

In Jun 2007, Mr. Davis served on the board of directors of Trimeris, Inc, on whose board Barry D Quart, the CEO and President of Ardea Inc., also serves as Director.



Year 2010

In Dec 2009, Neurogen was acquired by Ligand Inc.
In April 2010, Stephen Davis left Neurogen and joined Barry D Quart's Ardea as the Executive Vice President and Chief Operating Officer.

Chapter 3

Tunneling as a Pathway to the Boardroom

3.1 Introduction

Many companies appoint outside CEOs to their boards (Fahlenbrach, Low, & Stulz, 2010; Lorsch & MacIver, 1989). In explaining this phenomenon, some scholars have pointed out that outside CEOs provide valuable resources: leadership, an extensive experience that is positive for advising and monitoring the management teams of receiving firms, their knowledge of contemporary challenges, as well as their abilities to manage relations with different stakeholders such as governments and investors (Lorsch & MacIver, 1989; Neff & Heidrick, 2006). For all these contributions to the receiving companies' management, outside CEOs are considered "the most desired board members" (Lorsch & MacIver, 1989: 19). Hence, it is not surprising the positive response of capital markets to receiving firms' announcements of CEOs appointments as outside directors (Fahlenbrach et al., 2010).

However, the capacity for improving the management of receiving companies is not always the primary motive for appointing a CEO as an outside director. CEOs possess substantial social and interpersonal influence that may serve to gain favor with the individuals who control the access to boardroom (Westphal & Stern, 2006, 2007). Such an interpersonal influence can be exercised, for example, by means of an ingratiatory behavior, which not only may facilitate the appointment of the CEO as external director (Stern & Westphal, 2010; Westphal & Stern, 2006), but also generates in the recipient of ingratiation a feeling that s/he is morally and socially obligated to return to the ingratiator the favors received (Cialdini & Goldstein, 2004). Social exchange theory (Blau, 1964; Emerson, 1976; Homans, 1958) has addressed this kind of exchange. It conceives interactions among social actors as an exchange relation in which the participating actors obtain reciprocal benefits. Accordingly, the worth of a social interaction is measured by how much resources, either economic or

socioemotional, each part receives from the other. Depending on its nature, the resource will address different needs. While economic resources are tangible outcomes that address financial needs, socioemotional resources are much more symbolic in nature and pursue the fulfillment of social and esteem needs of individuals (Cropanzano & Mitchell, 2005; Foa & Foa, 1974). So, given that behind every relationship there may be a particular need to be attended, it is expected that different sorts of relationships will involve different sorts of resources (Foa & Foa, 1974, 1980): while economic resources are more likely to be exchanged in casual interactions, close relationships usually involve socioemotional resources. In the context of exchanges among members of corporate elites, the high social cohesion among the participants in these inner circles and their desire to achieve prestige and an elevated social standing (Domhoff, 2006; Useem, 1984; Useem & Karabel, 1986) makes socioemotional resources the most likely ones to be exchanged. For example, in the study of Westphal and Stern (2006), ingratiation was the sort of socioemotional resource used by managers without board appointments to obtain subsequent appointments.

Even though the exchange of socioemotional resources has been used to explain board appointments, research has not considered yet whether economic resources can play the same role. In our study, we propose that CEOs can increase the likelihood of sitting on other firms' boards by transferring to these firms (i.e., receiving firms) economic resources from the firm they lead (i.e., source firms). To explain the mechanism of this exchange, we borrow from the literature on corporate governance the term "tunneling" (Johnson, La Porta, Lopez-de-Silanes, & Shleifer, 2000) to denote the transfer of resources out of the source firm for the benefit of those who control them (i.e., their CEOs). Next, we explore whether the tunneling of economic resources from the source firm to receiving firms can explain the creation of a CEO network that links the source firm to different receiving firms in which the source firm' CEO will sit on their boards.

In comparison with intangible, socioemotional resources, monetary resources are a more credible and tangible signal on how source firms' CEOs value their membership in other firms' boards. Economic exchanges demand repayment within a particular time period and involve exchanges of economic or quasi-economic goods, while socioemotional exchanges are open-ended and less specific. In a similar vein to socioemotional resources, individuals tend to feel gratitude toward those who provide them with tangible or economical benefits (Flynn, 2005). Moreover, the desire to receive further tangible, economic benefits from another person in the future can

increase the likelihood of reciprocation. Therefore, by tunneling resources toward receiving firms, CEOs of source firms may likewise induce feelings of not only psychological but also economical indebtedness in their peers of receiving firms. The consequence is that those agents that make decisions in the receiving firms will be more favorable biased towards the CEOs of source firms when an opportunity arises in the designation of a new board member. In exchange, with their appointment in the receiving firm, the CEOs of source firms will enjoy the private benefits of belonging to the inner circle of corporate elites, while the shareholders of source firms will suffer a decline in their wealth (Davis, 1991; Wade, O'Reilly III, & Chandratat, 1990) as a consequence of the tunneling. Furthermore, the private benefits of belonging to the inner circle will be particularly evident in the long run, as the reciprocity will allow source firms' CEO to maintain their board appointment even when they stop working for their source firms.

We test these predictions using a unique database, which is an incomplete panel of 4,007 US firms with 21,783 observations over the period 2004–2012. We include information of firms' CEOs, interlocking CEO-Director linkages, additional board appointments, and other firm- and CEO-level data. The results found support the idea that tunneling is a driver of CEO network formation and consolidation.

Our research makes three unique contributions to the literatures on board appointments, agency theory, and tunneling. First, we extend Westphal and colleagues' (2006, 2007) work by introducing economic exchange as an alternative mechanism to socioemotional exchange in garnering board appointments. Moreover, the introduction of this economic mechanism for attending the needs of agents involved in the exchange is also an extension of the social exchange theory. Cropanzano and Mitchell (2005: 881) asked, for example, for more research on "the types of resources that are exchanged in different types of relationships". In our study, we show that the interpersonal relationships among managers can also be supported on economic resources exchanges. Second, agency theorists argue that CEOs make decisions for their personal benefit at the expense of shareholders (Fama, 1980; Fama & Jensen, 1983; Jensen & Meckling, 1976). In this study, we analyze another way of achieving private benefits: the tunneling of resources to gain CEOs' private benefits outside source firms. This agency problem differs from other situations studied by agency scholars, in which the private benefits of CEOs are enjoyed within the limits of the firm they are running. Moreover, the agency costs of tunneling resources away from source firms may be particularly destructive of source firms' shareholder wealth and even be larger than those relying just on socioemotional ingratiation or on

time-consuming efforts of source firms' CEOs for participating in several external boards. Existing research considers CEO outside board service as a way to entrench themselves in their firms and continue enjoying private benefits. However, this strategy requires that CEOs must achieve a minimum level of firm performance (Conyon & Read, 2006; Davis, 1991; Wade et al., 1990). In our framework, CEOs tunnel resources from source firms independently of their performance because with tunneling CEOs create outside employment options in the receiving firms. So, our theory and findings support the idea that outside board service is more than a problem of managerial opportunism in the source firms (Conyon & Read, 2006). Third, we contribute to tunneling research by providing evidence of tunneling activities within network of executives. Researchers have long focused on testing out tunneling in the context of shareholder networks, primarily business groups. However, there is no research supporting the use of tunneling in the network of relationships within the inner circle of "corporate elites". Our study suggests that tunneling can be a mechanism to entry into the corporate elite—and hence enjoy its associated benefits—and remain in the inner circle even if CEOs lose their former position afterwards.

3.2 Theory and hypotheses

3.2.1 CEOs' incentive to expand their network of directorships

Managers enjoy numerous private benefits from their service on outside boards (Mizruchi, 1996). A first set of benefits relates to incentives and job risk. Agency theorists (e.g., Perry & Peyer, 2005) have shown that CEOs who have weak incentives to maximize shareholder wealth at their firms are more inclined to accept serving on outside boards as a way to increase their compensation and open the possibility for an exit option. Besides receiving a generous financial compensation, CEOs also obtain several non-monetary perquisites from their outside board service in form of prestige and social influence (Useem, 1984; Useem & Karabel, 1986). As managers sit on more boards, they acquire greater status in the corporate elite and they can enhance their influence over the decision making of the companies in which they serve as directors (Finkelstein, 1992; Useem, 1984; Westphal & Khanna, 2003). As research on CEO celebrity (e.g., Hayward, Rindova, & Pollock, 2004) has already suggested, CEOs connected to high-status managers of other organizations improve further their own status, prestige and social influence. In addition, with an increasing outside board activity, managers are more likely to be publicly recognized as business experts (Useem & Karabel, 1986). Such recognitions give them greater opportunities of

receiving offers to serve as monitors or advisers of powerful non-business institutions, which usually exert a large influence over a wide variety of societal issues, such as governmental agencies (Useem, 1984), banks (Ratcliffe, 1987), and universities (Gersh, 1987). With greater external connections, CEOs accumulate more power in the source firms as well (Finkelstein, 1992), which allows them to pursue their personal agendas without the interference of source firms' shareholders (Davis, 1991).

Hence, to accrue all these rewards, CEOs have incentives for getting board positions in as many prestigious organizations as possible. As explained next, in this study we introduce the tunneling of resources from source firms to receiving firms as the economic exchange mechanism that allows CEOs of source firms to receive board appointments in other firms.

3.2.2 Social exchange theory's view on determinants of board appointments

Research on board interlocks has provided several arguments to explain board appointments of outside CEOs (see Mizruchi, 1996). A first argument emphasizes the capacity of outside CEOs to give advice and monitor to the receiving firm's management. Given their background and business experience, once appointed, outside CEOs are in a better position than the rest of outside directors to advice and monitor the managers of the appointing firm (Kaplan & Reishus, 1990). In addition, unlike other outside directors, outside CEOs also lead a firm, so they have the ability to deal with the CEOs of receiving firms as equals and, hence, may call into question their decisions as no other outside director can do, which reinforces the view that outside CEOs are truly independent directors (Adams & Ferreira, 2007; Fahlenbrach et al., 2010).

A second argument focuses on social connections. Work on interlock networks (e.g., Davis, 1991; Davis & Greve, 1997) suggested that directors were more likely to join new boards to the extent that they already held many board seats. Through their appointment, outside CEOs establish connections with the rest of directors of receiving firms, who, in turn, may extend invitations to outside CEOs for joining the board of another company. Consistently, the evidence shows that directors typically acquire additional board seats through referrals from fellow outside directors who serve on other boards (Domhoff, 2006; O'Neal & Thomas, 1996; Useem, 1984).

Related to social connections, Westphal and Stern (2006) advanced a social influence argument to explain board appointments. According to these authors, managers

without elite credentials may engage in interpersonal influence behaviors to obtain board appointments. Such influence behavior, the ingratiation, comprises flattery, opinion conformity, and favor-rendering, and serves to increase one's interpersonal attractiveness or to gain favor with another person (Kumar & Beyerlein, 1991; Westphal & Stern, 2006). Specifically, through an ingratiation behavior directed toward their CEO, top managers can elicit a reciprocal attraction by the CEO that will lead her/him to feel socially obligated to return the favor, even if it were unsolicited. As CEOs' recommendations are taken into account by the nominating committee, top managers that have engaged in an ingratiation behavior toward their CEO are more likely to obtain board appointments in firms in which their CEO serves as outside director or in firms that belong to the interlocking directorate network of their CEO.

In the previous argument, board appointments of top managers was the outcome of a social exchange in which, top managers initially validated the opinions held by the CEO, rendered her/him favors or just flattered her/him. Then, the CEO felt the obligation to reciprocate such top managers by recommending them as candidates to serve on boards of other firms. As such, ingratiation can be analyzed within the framework of the social exchange theory (Westphal & Stern, 2007). According to this framework, "social exchange comprises actions contingent on the rewarding reactions of others, which over time provide for mutually and rewarding transactions and relationships" (Cropanzano & Mitchell, 2005: 890). Such transactions and relationships are regulated by norms of reciprocity or, in some cases, by negotiated agreements that guide the exchange of resources among participants. The resources exchanged can be classified into two broad categories, depending on their nature: socioemotional and economic resources (Foa & Foa, 1974, 1980). Socioemotional resources are those that address social and esteem needs. These resources tend to be intangible, like sending the message that an employee is valued or engaging in an ingratiation behavior, as described before. On the other hand, economic resources are tangible in nature and basically address financial needs. It is noteworthy that the type of resource exchanged is likely to be influenced by the type of relationship among participating actors (Cropanzano & Mitchell, 2005). For example, an economic exchange takes place when the relationship is motivated by the self-interest of the parts, who demand a short-term repayment of their actions by means of economic or quasi-economic goods. Contrarily, in social exchange relationships, socioemotional benefits and the fulfillment of the needs of the other party are of primary importance and the terms of the exchange are defined in a more open-ended manner and the time span is less stringent (Clark & Mills, 1979; Mills & Clark, 1982). As we develop next, our proposal lies on the first resource-relationship typology.

3.2.3 Tunneling and board appointments

In this section, we discuss how CEOs may increase the likelihood of being appointed board members in other firms through engaging in economic or pecuniary "resource transfer" activities. Specifically, we contend that CEOs can increase their chances of gaining additional board appointments by transferring benefits of the firms they run toward other receiving firms on whose board they aim at sitting.

We borrow from the corporate governance literature the term "tunneling" (Johnson et al., 2000), which was originally proposed to describe resource transfers among different shareholders, generally from minority shareholders to majority ones (i.e., blockholders). Resources are allocated and arranged to produce goods and make profits for the benefits of all shareholders. However, there is plenty of evidence suggesting that assets were transferred out of companies and profits were siphoned off by controlling shareholders and other insiders. The classical scheme analyzed in the corporate governance literature considers tunneling as an ownership expropriation mechanism by large blockholders that transfer resources from low control-rights firms to high control ones under their control in the same business group.

In a similar vein as blockholders do, CEOs, as insiders, have the incentive and the power to transfer benefits out of their firms for their personal gains. CEOs have inside information regarding the firm's true production frontier and can decide at their convenience the most adequate projects to tunnel resources from and that most satisfy their interests. Tunneling may involve self-dealing transactions, sale of assets at the most convenient transaction price, excessive executive compensation, loan guarantees, and insider trading, among others.[5] The consequence of such tunneling is to turn the loss of shareholders, due to the stock devaluation, into CEO's personal gains.

A particular use of tunneling by CEOs is the creation of social ties (e.g., board interlocking) with individuals and organizations in exchange of economic resources. For example, ENRON donated hundreds of millions of dollars to the M.D. Andersen cancer center, whose president, John Mendelsohn, sat on Enron's board as independent director. Such anecdotal evidence suggests that "outside" directors with

[5] For example, the CEO may decide to sell company assets at unreasonably low prices or diverts future business to a second company in which s/he has indirect interests. Another possibility is that the CEO overpays an illiquid asset without a clear market value, e.g., a private firm, or the license for a new technology, in which s/he has a hidden ownership stake. Such extra funds, which could be invested in productive activities, are diverted to satisfy the CEO private interests.

connections to the CEOs may compromise their monitoring task over the CEO, who subsequently will have more discretion to pursue her/his own agenda.

In the framework of social exchange theory mentioned before, tunneling is an economic resource that may trigger, by reciprocity, feelings of indebtedness in the receptors of such transfer (Cropanzano & Mitchell, 2005) in a similar vein that socioemotional resources linked to ingratiation do. However, the tunneling of economic resource toward receiving firm by CEOs of source firms is distinct from using an ingratiatory behavior. Monetary resources are often considered to be more stable, direct, immediate, and to be more credible in terms of triggering norms of reciprocity than socioemotional resources are. According to Foa and Foa (1974, 1980), socioemotional resources are particularistic and mostly symbolic, given that their worth varies based on its source. Economic resources, on the contrary, are tangible and so universalistic, given that its value is constant regardless of who provides it; hence, they are more likely to be exchanged in a short-term, quid pro quo fashion (Cropanzano & Mitchell, 2005). Then, in terms of getting a very specific return, which is a board appointment, the framework of social exchange theory would suggest that CEOs of source firms should provide tangible economic resources (instead of intangible socioemotional resources) in an attempt to influence the director selection process at the receiving firms and obtain there their appointment as director in exchange.

In contrast to the Westphal and Stern's (2006, 2007) conception of the interdependence between top managers and their CEO as a social exchange relationship, the interdependence between CEOs of source firms and the person responsible for the appointment of new board members at receiving firms can be better framed as an economic exchange relationship. Clark and Mills (2011) described the differences among both types of relationships in terms of the rules that govern the giving and acceptance of benefits. In social exchanges "benefits are given without the donor or recipient feeling the recipient has an obligation to repay[, though] this does not rule out the possibility that the giving benefits increases the recipient's desire to behave communally towards the donor[, which s/he] often does"; meanwhile, agents that engage in economic exchanges are more calculative and "assume that a benefit is given with the expectation of receiving a comparable benefit (or benefits) in return" (p. 233-234). Hence, while it seems implausible to observe economic exchanges between a manager and her/his CEO, research on tunneling has acknowledged the existence of transfers of economic resources among firms (Johnson et al., 2000). Moreover, unlike relationships between managers and their CEOs, the

interdependence of source firms' CEO with the managers of the receiving firms do not seem to satisfy the condition of proximity between actors to be based on a communal norm and, hence, describe a social exchange. Even more, the engagement in social exchanges in compensation for board appointments would produce a mismatch, given that such exchange would mean transferring socioemotional resources in exchange of an appointment. This mismatch would generate stressful situations for some of the parts (Cropanzano, Weiss, & Elias, 2004). In contrast, a perfect match would emerge in an exchange relationship supported by the tunneling of economic resources from source firms to the receiving firm in exchange for another economic benefit: the board appointment at the receiving firm.

Though most firms have a nominating committee in charge of the board appointments, CEOs have a large influence on the decisions of the committee to extend invitations to serve the board (Westphal & Stern, 2006). A reasonable assumption is, then, to consider CEOs of the receiving firms as the persons responsible for the appointment of new board members in the receiving firms. Accordingly, the economic benefits facilitated by CEOs of the source firms to receiving firms through the tunneling of economic resources should engender in the CEOs of the receiving firms positive affect and a feeling of indebtedness toward their homonyms. One way to reciprocate such transfer of economic resources may be that CEOs of the receiving firms will recommend source firms' CEOs for a board appointment at the receiving firms. Thus, we posit as a first hypothesis:

> *Hypothesis 1. The amount of resource transferred out from source firms will increase the source firms CEOs' likelihood of obtaining additional outside board appointments.*

As a consequence of the tunneling of economic resources from source to receiving firms, the financial performance of receiving firms will increase (Bertrand, Mehta, & Mullainathan, 2002). Therefore, we predict:

> *Hypothesis 2. The amount of resources transferred out from source firms will increase receiving firms' performance.*

3.2.4 Tunneling and board position maintenance

The underlying logic of the economic exchange argument developed in the previous section requires the tunneling to be an effective mechanism for source firms' CEOs to maintain their position in the boards of receiving firms. For this reason, in this section

we develop propositions about the relationship between tunneling and the likelihood of maintaining the board appointments. Our main hypothesis is that, after sitting on the board of other firms, tunneling might also serve as a mechanism for CEOs to protect outside appointments in the receiving firms, especially in situations where CEOs suffer the pressured from the corporate governance of their (source) firms.

As previously suggested, the strategy of outside CEOs to increase the likelihood of receiving board appointments in other firms is to engage in tunneling activities. However, once appointed in exchange for the tunneling of resources, outside CEOs may lose their job as directors. Though the background, business experience, connections, and prestige of outside CEOs make them ideal candidates for monitoring and advising receiving firms' CEOs, their value and attractiveness as outside directors may completely disappear if they leave their firms. Even when they have transferred economic resources out of their firms to the receiving firms, their eventual dismissal (for example, for poor results) may damage their image as directors. Hence, doubts at receiving firms about the convenience of such outside CEOs continuity in the board may emerge. In anticipation of these risks, outside CEOs may enact a strategy for protecting their outside board positions. Not surprisingly, some work on agency theory has pinpointed that interlocking directorate networks constitute a perfect social context for perpetuating the dominance of top managers (Davis, 1991; Wade et al., 1990).

Social exchange theory suggests that the interdependence between parties is a "process that begins when at least one participant makes a move, and if the other reciprocates, new rounds of exchange initiate" (Cropanzano & Mitchell, 2005: 876). However, as suggested before, the consideration given by another to one's needs is notoriously lower in economic exchanges than in social exchanges (Clark & Mills, 2011). This implies that, for maintaining the feeling of indebtedness of the receiving firms' CEOs toward source firms' CEOs, they have to continue providing benefits to receiving firms through the transfers of economic resources. The consequence is an increase in receiving firms' performance and, with it, the generation, by means of the norm of reciprocity, in the receiving firms' CEO of an "obligation" to preserve the director condition of the outside CEO. We accordingly hypothesize that:

> *Hypothesis 3a. The more resources tunneled out from source firms, the higher the probability that their CEOs will be retained in receiving firms' boards after they leave their firms.*

Hypothesis 3b. The more resources tunneled out from source firms before their CEOs leave these firms, the higher the receiving firms' performance.

Finally, once CEOs leave source firms, they lose any possibility of tunneling resources out of source firms. Thus, we posit that:

Hypothesis 4. After CEOs leave source firms, the tunneling from source firms to receiving firms will stop.

3.3 Methods

3.3.1 Data sources and sample

We developed a unique dataset by combining two databases: OSIRIS and, EXECUCOMP. OSIRIS provides data on financial and ownership structure. This is a database compiled by Bureau van Dijk and provides information on finance, ownership, and earnings for 38,000 companies from over 130 countries. Our interest in including ownership data is justified by the need of constructing a variable of corporate governance. We took advantage of the identification numbers conferred by Osiris to every firm, CEO, and director to map out the extensive social networks formed by CEOs and directors. From EXECUCOMP, we extract information on Board Size, CEO Education, CEO Age, CEO Tenure, and CEO Compensation.

The sample resulting from combining these three databases is an incomplete panel of 4,007 US firms with 21,783 observations over the period 2004–2012. Also, in order to reduce problems of skewness and Kurtosis, we winsorized firm-level control variables at the 1th and 99th percentile levels. In order to test our theoretical contentions, we focus on CEO-director event observations and build a 5-year panel data by considering event year as year t0 and tracing back year t-1 and year t-2 as well as forward years t+1 and t+2.

We first test if the amount of resource transferred out of CEOs' firms will positively affect CEOs' likelihood of obtaining outside board positions (Hypothesis 1). We then examine if the resources tunneled out of the CEOs' firms (source firms) were transferred to the receiving firms and increase the latter firms' performance

(Hypothesis 2). In order to conduct this test, we focus on CEO-Director appointments event observations (year t0) and build a 5-year panel data by considering the event year (t0) and, again, tracing back years t-1 and t-2 and tracing forward years t+1 and t+2. For these years, we computed the performance of all receiving firms.

For testing Hypotheses 3a, 3b and 4, we took as the event year the period in which CEOs was removed from source firms. From this event period, we defined a window of 5 years around the event.

3.3.2 Dependent variables

The estimation of tunneling on the creation and maintenance of network ties is made relying on the following variables (see Appendix I).

CEO's additional outside directorships. This is the dependent variable for the initial stage of analysis (Hypotheses 1 and 2). This variable is a dummy that takes the value of 1 if the CEO becomes a board member in another firm. The value of this variable is 0 otherwise.

CEO maintains outside directorships. This is the dependent variable for the second stage of analysis (Hypotheses 3a, 3b and 4). It is a dummy that takes the value of 1 if CEO still sits on the board of network firm one year later after s/he is removed from the original source firm.

Receiving firm's performance. To gauge performance, we used the variable profits before depreciation, interest and tax.

3.3.3 Explanatory hypothesis-testing variables

Tunneling. To operationalize the key explanatory variable, we adapted the approach employed by Bertrand and colleagues (2002), in which a subsidiary's underreaction to a shock affecting the subsidiary's industry is seen as evidence of intragroup transactions. Performance underreaction thus provides evidence of the transfer of resources tunneled out of the firm. We linked such underreactions to industry shocks by comparing the predicted and reported real performance. The predicted performance is obtained from a regression model adopted in Bertrand and colleagues that explains firm's realized performance in terms of its expected value inferred from the focal industry and various firm controls (firm age, total assets, leverage). Firm fixed-effect

estimation allowed us to identify the effect of industry shocks. A predicted performance larger than the realized performance is indicative of the transfer of resource tunneled out of the firm. The difference between predicted and realized performance is our study's proxy for tunneling of resources from the source to the target (receiving) firm. The methodological details are provided in Appendix II.

Receiving Firm's Sector-Based Expected Performance. As Bertrand and colleagues suggested that a firm's performance is sensitive to its expected performance based on the information at the sector level. Given the industry return, we can predict what a firm's expected performance ought to be by multiplying industry return times firm's total asset. Following the methodology of Bertrand and colleagues, the sensitivity of receiving firm's performance to sector-based expected performance is a proxy that captures the existence of tunneling (The lower this sensitivity, the larger the amount of tunneling).

Before appointment and leaving. We included two dummies to test the impact of tunneling on receiving firm's performance, conditional on the moment before or after the tie creation (i.e., the formation of the interlock). *Before appointment* is equal to 1 when the period is up to 2 periods before the tie is created and 0 otherwise (first stage). We follow the same logic for characterizing those periods before the tie is broken (second stage). We define *Before leaving* as a dummy equal to 1 in those 2 periods before the CEO leaves the source firm and 0 otherwise.

3.3.4 Control variables

CEO-level control variables. CEOs' human capital has been seen as an important driver of CEO appointments in other firms (e.g., Geletkanycz & Boyd, 2011). *CEO education* is coded 1 if CEOs hold a master's degree or a Ph.D., and 0 otherwise. Other factors affecting the number of outside directorships held by the CEO are *CEO age*, measured by the current age of CEOs and *CEO tenure*, which is the number of years since CEOs took office (Booth & Deli, 1996). In the case of CEO age, we expected that, as CEOs approach to retirement, they might hold more outside directorships. Concerning to CEO tenure, this variable is a standard proxy of firm-level entrenchment. The more entrenched a manager is, the less necessity to hold outside board positions as a possible exit options from the source firm.

Firm-level controls. We included a number of measures that prior research has suggested may be important determinants of CEO interlock ties. *Board Size* is the

number of board members of the source firm, which is a determinant of managerial entrenchment (Raheja, 2005). We approach *firm size* through the log of total assets. CEOs of larger firms have more resources and influence to build up their own network. Analyses also controlled for *firm leverage*, using the ratio of total debt to total assets. According to the free-cash flow hypothesis developed by Jensen (1986), leverage complements internal corporate governance mechanisms to control CEOs and limit their discretion in the source firm. We also controlled for the management network. *CEO network* is the number of CEO outside directorships. Davis (1991) pointed out that directors were more likely to join new boards to the extent that they already held many board seats. Board appointments provide social connections to directors who serve on the boards of other companies, which presumably lead to invitations to join additional boards. *Board network* is the number of outside directorships in other firms held by directors (excluding CEO) of the source firm. Qualitative research on director selection also suggests that directors typically acquire additional board seats through referrals from fellow outside directors who serve on other boards (Domhoff, 2006; O'Neal & Thomas, 1996; Useem, 1984). Finally, we control for a firm's corporate governance as an antecedent that prevents managerial entrenchment. We use proxies that compose an overall picture of a firm's corporate governance, namely: *Outside director percentage*, *Non-CEO duality* and *Top10 shareholders* stake (Finkelstein & D'aveni, 1994; Shleifer & Vishny, 1997; Weisbach, 1988)**.**

Industry-level controls and temporal-level controls. Finally, we controlled for industry and temporal effects. The likelihood of being appointed as board member of another firm is contingent on the industry origin of source CEOs as well as the moment of the economic cycle. For example, most industrial firms appoint bank officials as board members for capital allocation reasons (Mizruchi, 1996), particularly in recessions. We therefore controlled for this potential source of unobserved heterogeneity by including industry dummy variables (at 1-digit SIC code) as well as temporal dummy variables.

3.3.5 Analysis

The categorical nature of our dependent variables in Hypothesis 1 and 3a has led us to employ logit estimation techniques in testing such contentions. Hypothesis 1 predicts that CEOs' likelihood of being appointed as directors in other firms increases as resources transferred out of CEO's source firms increase (network creation). Hypothesis 3a states that the probability of CEOs staying in the board of the receiving

firms after they depart from source firms increases with the funds transferred to the receiving firms. Therefore, we estimated the following specifications:

$$\textit{CEO's additional outside directorship}_{it+1}/\textit{CEO maintains outside directorships}_{it+1} = \beta_1 + \beta_2\, \textit{Tunneling}_{it} + \beta_3\, \textit{CEO controls}_{it} + \beta_4\, \textit{Firm controls}_{it} + \beta_5\, \textit{Industry/Temporal controls}_{it} + \eta_i + \varepsilon_{it}. \quad (1)$$

Specifications (1) include two additional error terms, η_i and ε_{it}. A firm-specific component of the error term (η_i) was included to account for the firm-specific unobservable heterogeneity that may be correlated with independent variables, and ε_{it} is a random-noise residual. In these specifications, we measured both dependent variables at t+1 to tackle a potential reverse causality problem. Support for Hypothesis 1 would therefore require the coefficient β_2 to be positive when the dependent variable is *CEO's additional outside directorship*$_{it+1}$. Similarly, Hypothesis 3a is supported when coefficient β_2 is positive and the dependent variable is *CEO maintains outside directorships*$_{it+1}$.

To test Hypothesis 2, 3b and 4, we examine the different effects of source firms' tunneling on the receiving firms' performance before and after CEOs were appointed in receiving firms' boards (Hypothesis 2) and before and after CEOs left source firms (Hypothesis 3b and 4). We match CEOs' source firms with their corresponding firms in which CEOs have an outside board position in a five-year time window around the year CEOs were appointed as directors in receiving firms (Hypothesis 2) and when they left the source firms (Hypothesis 3b and 4). Because of the structure of our data, we employed a panel data approach in testing these hypotheses (Wooldridge, 2010). Hausman test revealed a correlation between the firm-specific error component and the explanatory variables. Then, we use fixed effect estimations techniques to test our hypotheses, namely, whether the tunneling of resources from source firms went to receiving firms before CEOs-board appointments/CEOs left source firms. Therefore, we used the following specification:

$$\textit{Receiving Firm's Performance}_{it} = \alpha_1 + \alpha_2\, \textit{Tunneling}_{it} + \alpha_3\, \textit{Before CEO appointment}_{it} / \textit{Before CEO leaving}_{it} + \alpha_4\, \textit{Tunneling}_{it} \times \textit{Before CEO appointment}_{it} / \textit{Before CEO leaving}_{it} + \alpha_5\, \textit{Receiving Firm controls}_{it} + \alpha_6\, \textit{Industry/temporal controls}_{it} + \eta'_i + \varepsilon'_{it}. \quad (2)$$

In estimating this second specification, we restricted the sample to those firms that

have appointed a new CEO-director. Then, in order to avoid finding inconsistent parameters and identification problems, before estimating this specification we estimated a model in which the dependent variable was the probability of appointing a CEO-director. We compute this probability using as regressors the same variables as (1). From this intermediate model, we computed the mills ratio (Greene, 2012), which was included in the definitive estimation of specification (2).

Using this specification, Hypothesis 2 would be supported if α_4 is positive as well as the sum of $\alpha_2 + \alpha_2$ is positive when the main explanatory variables are *Before CEO appointment*$_{it}$ and *Tunneling* $_{it}$ × *Before CEO appointment*$_{it}$. Besides, Hypothesis 3b would be supported if α_4 is positive as well as the sum of $\alpha_2 + \alpha_2$ is positive when the main explanatory variables are *Before CEO leaving*$_{it}$ and *Tunneling* $_{it}$ × *Before CEO leaving*$_{it}$.[6] Finally, Hypothesis 4 is supported when α_2 is not significant in this latter specification.

3.4 Results

Table 1 shows descriptive statistics. Results indicate that source firms (transferring resources) have lower performance than the receiving firms (*i.e* firms in which source firms' CEOs sit on the board). Also, the network density of source firms is larger than the receiving ones. Finally, the corporate governance of the former firms is larger than that of the receiving ones. This evidence is consistent with a situation in which the managers of source firms suffer pressure given the low performance and the high firms' corporate governance and build a dense network to open the possibility to move to other firms.

Insert Table 1 about here

3.4.1 Tests of hypotheses

Table 2 shows results for contrasting Hypotheses 1 and 2. Model 1 provides the result of a logistic regression model of board appointments. Results support Hypothesis 1, as the amount of resources transferred out from CEOs' source firms positively affects

[6] In order to check the lagged effect of Transfer on CEO's maintenance in the network, we replace Transfer with one year lagged Transfer (Transfert-1) in specification (2).

CEOs' likelihood of obtaining outside board services. The greater the extent to which firms engage in tunneling resources, the greater the likelihood that source firms' CEOs will be appointed to the board of other firms.

In the remaining models, we then focus on 670 CEOs-director appointments observations in the period from 2004 to 2012. For each of them, we pairwise match appointees source firms' CEOs with their corresponding receiving firms. As explained in the Methods section, we build a 5-year panel data by considering the year a CEO was appointed as year t-0 and tracing back year t-1, year t-2 as well as forward year t+1, t+2.[7] This generates an incomplete panel of 2322 observations for the 670 CEOs-director appointments. Model 2 shows that receiving firms' performance was not significantly associated with the tunneling of source firms' resources during the overall five-year period. However, once we separate the 5-year period in those years before and after the board appointment in order to test Hypothesis 2 (see Model 3), the result are significantly different in both periods. In particular, in the previous 2 years before the appointment there is a positive impact of the tunneling of resources from source firms in the receiving firms' performance (positive coefficient of the sum Tunneling + Tunneling × Before CEO appointment $\alpha_2 + \alpha_4 = 0.11, p < .001$). This result supports Hypothesis 2. For the coefficient of *Tunneling* in Model 3, we don't find any result. We argue that after the appointment and whenever CEOs are still managing their source firms there are 2 countervailing effects. On the one hand, the literature on big bath argues that new CEOs/board members have incentives to manipulate companies' income statements to make results look worse so they can blame companies' poor performance on the previous CEOs/board members and take credit for the next year's improvements (Murphy & Zimmerman, 1993; Pourciau, 1993). According to this argument, when CEOs have been appointed on the boards of other companies, they might take big bath as a strategy to withhold the appointing firms' performance and therefore they have no incentive to tunnel resource toward the receiving firms. On the other hand, the new appointed CEOs-as board directors might also continue to tunnel resources to appointing firms in order to further secure their positions in these firms under the possible event of departing from their source firms (see Hypothesis 3a and 3b).

Table 3 shows results for the tests of tunneling and board membership maintenance after source firms' CEOs have been appointed as member of the receiving firms. We first focus on 498 leaving CEOs-director linkages observations in the period from

[7] We eliminate those forward periods after the CEO appointment in the new board if s/he is not the CEO of the source firm anymore.

2004 to 2012. Model 1 of Table 3 provides the result of a logistic regression model of board position maintenance. Hypothesis 3a is supported, as the amount of resource transferred out of source firms the previous 2 years before CEOs left source firms, has a positive impact on the likelihood of CEOs maintaining their board position in receiving firms after they left source firms ($\alpha_2 = 0.13, p < .05$). In order to test Hypothesis 3b, we then restricted the sample to those firms that have a removed CEO on their boards. Fixed effect estimations based on a five-year panel were run to test the relationship between source firms' tunneling and receiving firms' performance before and after CEOs leaving source firms. As shown in Model 2, the tunneling of source firms' resources has no significant effect on receiving firms' performance in the overall five years. However, in Model 3 when we included the interaction term, source firm's *Tunneling* times temporal dummy *Before CEO leaving*, the tunneling of CEOs' source firma has positive and significant effect on receiving firms' performance ($\alpha_4 = 0.08, p < .001$) and the sum of $\alpha_2 + \alpha_2$ is positive which supports Hypothesis 3b. Finally, α_2 showed non-significance, supporting Hypothesis 4.

3.4.2 Robustness checks

Supplementary Analysis. To validate our results further, we adapted the test of sensitivity to industry shock of Bertrand and colleagues (2002) to our context and identify and measure the transfers from source firms. Following their methodology (see Appendix B), we should find that if there is any transfer from source firms, receiving firms' performance should be less sensitive to their industry shocks in the period before source firms' CEOs were appointed as outside board members. This is an alternative way to contrast Hypothesis 1 and 2 (see Model 4 in Table 2). Also, according to Hypothesis 3a and 3b, receiving firms' performance should be less sensitive to their industry shocks in the period before source firms' CEOs left their firms than in other period (see Model 4 in Table 3).

Model 4 of Table 2 shows receiving firms' performance is always sensitive to its sector-based expected performance throughout the 5 years event time window around CEOs-board appointments. But, remarkably, such sensitivity decreases in those 2 periods before CEOs outside board appointments (the coefficient of *receiving firm's expected performance* x *Before CEO appointment* is negative and significant: $\alpha_4 = -0.13, p < .001$). Similarly, Model 4 of Table 3 shows that receiving firms' performance is sensitive to its sector-based expected performance before and after CEO's left source firms. However, this sensitivity is reduced in the 2 periods before CEOs left source firms (the coefficient of *receiving firm's expected performance* x

Before CEO leaving is negative and significant: $\alpha_4 = -0.04, p < .01$).

Insert Tables 2 and 3 about here

Endogeneity issue. In Hypothesis 1, we consider whether the expectation of future ties is the driver of tunneling. It may be the case that CEOs has arranges informally (as members of the elite club of CEOs) that source firm's CEO will be appointed and the transfer of rents is just an "excuse" to justify this decision in front of the other board members in the receiving firm.

We tried two attempts to tackle this issue. First, the expectation of receiving a tie in the future could be related with the CEO's prior accumulated networks. If a CEO has been in a broad directorships network, the social cohesion might lead to a strong expectation of receiving board appointment for the CEO (Booth & Deli, 1996). Thus, the effect of "transfer" on the likelihood of receiving appointment should be reinforced for the CEOs that have a network with higher density, as they are more likely to expect the potential appointments and justify their future appointments by ex-ante arranging tunneling toward receiving firms. Our results, however, show that the likelihood of receiving appointment was reduced for the CEOs with more networks (see Table 4). In other words, the tunneling activity is more likely to favor the chances of gaining outside board appointments for CEOs with low fewer networks. This finding relieved our worry of the reverse cause-effect between tunneling and board appointment. And it is consistent with the social status argument in Westphal & Stern (2006) in that low-status CEOs are more likely to engage in behaviors that engender social exchange influence.

Insert Table 4 about here

Our second attempt is to check the relevance of CEOs' elite argument. If the source firm's CEO and receiving firm's CEO graduate from same university, it implies a stronger expectation and the tunneling between the two firms could be driven by the expectation. I check the affinity of the university of source firm's CEO and receiving firm's CEO. There are 496 observations out of 670 pair-wise observations that provide college information for both two sides of CEOs. Only 7 of these 496 pairs have CEOs coming from same university.

Separate in the definition of "Before CEO appointment/leaving" in period t-1 and period t-2. For Hypotheses 2 and 3b, we check whether there are differences in the effect of tunneling on receiving firm's performance once we consider just period t-1 or period t-2.

The results (see Table 5) show that source firm's tunneling seems to have stronger effect in period t-2 for gaining board appointment (two years before source CEO seated on the board), while source firm's tunneling seems to have stronger effect in period t-1 for maintaining board position in receiving firm (one year before source CEO left own firm). Early adoption of tunneling to maintain board position in other firms when CEO is pressured by source firm's performance might further deteriorate firm performance and increase the risk of being removed. When approaching the CEO turnover, CEO with clearer prevision of dismissal then shifts focus to interests in other firms. Thus, CEO sacrificing source firm's interests to protect personal networks is more likely to be identified when close to CEO turnover.

Insert Table 5 about here

Different levels of tunneling. Note that all source firms have a negative mean transfer. We know that this is an average measure because a focal firm with a specific firm may also be a target in its relationship with another firm. Although we conduct a fixed-effect estimation so that we are actually taking into account the variation of tunneling in the test, we still can check the robustness of our results by testing whether the effects are different once we compare firms that increase outflows (with positive tunneling) versus firms that decrease them (with negative tunneling). Our results show that the "tunneling" of source firms that, on average, show a positive "tunneling" have stronger effect on receiving firm's performance than those that show, on average, a negative "tunneling". (See Table 6)

Insert Table 6 about here

Replication of Hypotheses 2 and 3b using a matched sample. For Hypotheses 2 and 3b, we tried a matched sample using propensity score matching to see if the receiving firms really respond to the transfer of source firm or it is just a mechanical

sensitivity due to methodology or other unknown factors. We match the 670 receiving firms with other 670 firms that have neither ownership nor directorship connections with the corresponding source firms by one-to-one best neighbor matching. The matched sample performed non-significance (not tabulated) in hypothesis testing variable--tunneling, indicating that only the connected receiving firms have specific sensitivity to the tunneling of their source firms.

3.5 Discussion

In this study, we combined insights from agency and social exchange theories to propose a new framework to explain CEOs' appointments in other boards based on the concept of economic exchanges. Our basic prediction has been that CEOs who transfer economic resources (tunneling) from the firm they are running (source firms) to other firms (receiving firms) are more likely to be rewarded, in exchange, with another economic resource: their appointment as board members at receiving firms.

Making use of a panel data of 4,007 US firms for the period 2004–2012, we showed that the tunneling activities of source firms have a positive effect on source firms CEOs' likelihood of getting additional board appointments. Moreover, results indicated that the tunneling of economic resources out of source firms before the appointment of outside CEOs increased the performance of receiving firms. Such transfer of resources has been also seen being used by outside CEOs for maintaining their network. In this sense, findings also showed that, before the departure of CEOs from source firms, the performance of the receiving firms has also increased due to the resources tunneled out from source firms. Such tunneling has, in turn, caused a positive impact on the likelihood of CEOs maintaining such outside board positions. Finally, when outside CEOs left source firms, the tunneling towards receiving firms stopped.

3.5.1 Implications

Our study makes a number of contributions. Our analysis complements existing work that used the social exchange theory to explain the pathway to the boardroom by means of social exchanges (e.g., Westphal & Stern, 2006, 2007). We argue that certain practices of social network activities can be explained in terms of a tunneling-based self-serving strategy. The decision by an executive to accept a directorship was generally believed to enhance shareholder value of the primary employer if such

executive sitting on an outside board learns about different management styles or strategies used in other firms (e.g., Booth & Deli, 1996). Firms could also benefit from their executives' directorships to establish a network or to monitor business relationships (e.g., Mace, 1986). However, we have proposed a new perspective to look at CEOs gaining board appointments, which is through the lens of tunneling out firm's resources. This pathway to the boardroom could be more costly to firms' shareholders than the exchange of socioemotional resources given that firm resources were siphoned off. Thus, shareholders should be particularly aware of preventing the development of this kind of social connections when implemented in a context of transactions among firms. Hence, certain calls by CEOs to form outside connections may be damaging as part of value-destroying agency behaviors that expropriate minority shareholders.

We showed that before leaving source firms, CEOs tunnel firm resources to firms that appointed them in order to avoid being dismissed from these latter firms after their departure from source firms. In this context, we provide a warning signal over the suggestion made by some scholars (e.g., Geletkanycz & Boyd, 2011) that control over managers should be relieved when they face the risk of losing position due to dim performance. It is in this context when well-connected managers are about out of fiduciary duties for shareholders and are more eager of sacrificing current firm in exchange for private interests.

Another contribution that can be derived from our analysis is that the diversion of corporate resources from corporations (or their shareholders) for CEOs' private interests can be substantial. Researchers have long focused on testing out tunneling in the context of shareholder networks (i.e., business groups). We provided evidence that tunneling activities can be employed within other types of networks, such as networks formed by the "corporate elites". Thus, our analysis can help understand how these networks are created and maintained through the flow of economic resources and the application of the norms of reciprocity.

3.5.2 Limitations and future research

Our study has several shortcomings that suggest future research opportunities. First, we have not measured the amount of economic benefits the outside CEOs can receive from their board services. If tunneling in exchange for a board appointment were subject to the equality of exchange, outside directorships would generate an increase in compensation connected to the amount of resources tunneled. Second, our

theoretical perspective may not fully capture the specific mechanism through which tunneling affects the access to board appointments. Understanding the set of forms in which the tunneling is conducted could be important in designing laws preventing these practices. Another possible extension would be to include the characteristics of CEOs in the analysis. The inclusion of the demographic information might show a biased effect of tunneling on access to board appointments for demographic minorities. Another element worth addressing in the context of the social exchange theory is the connection between tunneling (economic resources) and socioemotional (social) resources in order to get certain objectives (board appointments). It might be of interest to explore if these resources are complements or substitutes. Finally, we have constrained our analysis to directorships maintenance. However, it may be of major interest to study the possibility that tunneling could be used to attain a more ambitious goal—being promoted in connected firms. Then, a more complete picture of the movement of CEOs in network will provide more insights and nuances of the connection between CEOs' tunneling strategies and career movements. The investigation of these issues is left for future research.

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Appendix I

Measurement of Variables

Dependent Variables:	
CEO's additional outside directorship	Dummy equal to one if the CEO takes an additional new position in the board of a firm, equal to zero otherwise.
CEO maintains outside directorships	Dummy that takes the value of one if CEO still sits on the board of directorship firm after he was removed from original source firm.
Receiving firm's performance	Profits before depreciation, interest and tax
Main Explanatory Variables:	
Tunneling	The amount of resources transferred out of firm. It is measured by firm's predicted performance minus real performance according to the method of Bertrand et al. (2002).
Before CEO appointment	Dummy equal to one when it is in the year before the source CEO was appointed as outside director in another firm.
Before CEO leaving	Dummy equal to one when it is in the year before the source CEO left source firm.
Control Variables:	
Board Network	Total number of board member's (excluding CEO) interlocks
CEO Network	Total number of CEO's personal interlocks
Corporate Governance Strength	Corporate Governance score measuring: 1, outsideness; 2, shareholder concentration (in terms of top 10 shareholders percentage); 3, duality. Constructed based on factor analysis method.
CEO Age	Age of CEO
CEO Tenure	CEO's tenure in source firm
CEO Education	It is equal to 1if CEO holds a Master or a Ph. D. It is 0 otherwise.

Board Size	Number of board members
ROA	Return on total assets
Size	The logarithm of total assets
Leverage	Total liability and debt divided by total assets
Mills Ratio	Probability of CEO being appointed as a new board member in the receiving firm using a specification defined in the main text

Appendix II

Construction of the variable of tunneling

We adapted the methodology of Bertrand and colleagues (2002) to our context to identify and measure transfers of firm resources. The baseline model is:

$$\text{Perf}_{ijt} = \alpha_1 + \alpha_2 \text{Expected Perf}_{ijt} + \alpha_3 \text{Controls (size, Levearge ...)}_{ijt} + \gamma_i + \varepsilon_{ijt} \quad \text{(B1)}$$

Where Perf_{ijt} is the real performance of firm i belonging to industry j in year t. Firm characteristics controls are all the firm-level controls included in the variable description. Some notation will be useful in defining Expected Perf_{ijt}. Let A_{ijt} be the measure of asset of firm i in industry j in year t; $\text{Perf}_{ijt} = r_{ift} \cdot A_{ijt}$ be a measure of a firm's performance responsiveness to its assets (ROA) of firm i belonging to industry j in year t (winsorized at 1%). $\bar{r}_{jt} = \sum_i \left(A_{ijt} \cdot r_{ijt} / \sum_i A_{ijt} \right)$ be the average ROA of industry j, computed by weighting each firm's r_{ijt} by its relative size. Given this industry return, the expected level of Perf_{ijt} according to the industry is: $\text{Expected Perf}_{ijt} = \bar{r}_{jt} \cdot A_{ijt}$.

We can predict what firm i's predicted performance ought to be in the absence of tunneling. In order to compute the predicted performance, we run a fixed-effects regression model (B1) for all firms in the sample, including firms whose CEOs don't take directorship in other firms, and obtained the prediction of Performance,

pred($\mathrm{Perf_{ijt}}$).

$$\mathrm{Pred(Perf_{ijt})} = \alpha_1 + \alpha_2 \widehat{\mathrm{Expected\ Perf_{ijt}}} + \alpha_3 \mathrm{Controls}\ \ \widehat{(\mathrm{size, Levearge} \ldots)}_{ijt} + \gamma_i$$

The real performance is lower than its predicted value under the presence of tunneling of resources (Bertrand et al., 2002). Thus, we measure the tunneling of resources as $\mathrm{Tunneling_{ijt}}$=$\mathrm{Pred(Pref_{ijt})} - \mathrm{Pref_{ijt}}$.

TABLE 1 Descriptive Statistics[a]

PANEL A Event time: Tie Creation, The year CEO was appointed			
Variables	Source firm	Receiving firm	Test of diff.
CEO Age	54.0 (7.32)	53.2 (7.54)	0.01 ***
Education	0.16 (0.37)	0.17 (0.37)	0.90
CEO Network	0.50 (0.90)	0.29 (0.64)	0.00 ***
Board Netw.	7.22 (5.58)	6.42 (6.05)	0.00 ***
Duality	0.56 (0.50)	0.49 (0.50)	0.00 ***
Tenure	4.16 (4.01)	3.25 (3.79)	0.00 ***
Top 10%	56.83 (23.74)	51.98 (22.74)	0.00 ***
Outsideness	0.74 (0.18)	0.74 (0.17)	0.12
Board Size	8.32 (2.73)	8.76 (2.87)	0.00 ***
Firm Age	27.10 (26.53)	27.45 (28.36)	0.74
Firm Size (Bn)	5.63 (10.9)	7.99 (14.8)	0.64
Leverage	0.63 (0.82)	1.15 (7.50)	0.05 **
CG score	0.15 (0.89)	0.01 (0.87)	0.00 ***
Performance	0.37 (1.41)	0.66 (1.98)	0.00 ***
Tunneling (Bn)	–0.05 (1.27)	–0.24 (1.45)	0.00 ***
Observations	670	670	
PANEL B Event time: Tie Break, The year CEO was removed.			
Variables	Source firm	Receiving firm	Test of diff.
CEO Age	56.1 (7.66)	53.4 (7.70)	0.00 ***
Education	0.19 (0.39)	0.18 (0.38)	0.46
CEO Network	1.16 (1.24)	0.44 (0.88)	0.00 ***
Board Netw.	7.92 (6.10)	8.38 (6.41)	0.03 **
Duality	0.52 (0.50)	0.52 (0.50)	0.81
Tenure	4.88 (4.55)	4.03 (4.51)	0.00 ***
Top 10%	56.6 (23.9)	51.8 (22.7)	0.00 ***
Outsideness	0.73 (0.19)	0.76 (0.14)	0.00 ***
Board Size	8.05 (2.72)	8.95 (3.07)	0.00 ***
Firm Age	22.4 (22.1)	25.4 (25.5)	0.00 ***
Firm Size (Bn)	5.47 (12.1)	7.55 (14.8)	0.00 ***
Leverage	1.66 (9.19)	0.87 (4.90)	0.02 **
CG Score	0.15 (0.90)	0.00 (0.86)	0.00 ***
Performance	0.31 (1.29)	0.57 (1.57)	0.00 ***
Tunneling (Bn)	–0.01 (0.95)	–0.17 (1.25)	0.02 **
Observations	498	498	

[a] Standard errors are in the parentheses.

TABLE 2

Results of Logit and Fixed Effect Estimations Predicting CEO's Network Creation and Tunneling [a]

	CEO's additional outside directorship		Receiving Firm's Performance [b]					
Independent variables	**Model 1**		**Model 2**		**Model 3**		**Model 4**	
Hypothesis-testing Variables								
Tunneling	0.05*	(0.02)	0.03	(0.02)	0.00	(0.02)		
Before CEO appointment			–0.09	(0.08)	–0.07	(0.08)	0.01	(0.09)
Receiving's Expected Performance							0.38**	(0.03)
Interaction terms								
Tunneling × Before CEO appointment					0.11**	(0.03)		
Receiving's Expected Perf × Before CEO appointment							–0.13**	(0.02)
CEO-level controls								
CEO Age	–0.01	(0.05)	0.05	(0.08)	0.04	(0.08)	0.05	(0.08)
CEO Tenure	–0.26**	(0.05)	–0.12	(0.08)	–0.13†	(0.08)	–0.09	(0.07)
CEO Education	0.06†	(0.03)	0.02	(0.04)	0.02	(0.04)	0.01	(0.04)
CEO Duality	0.11**	(0.04)	0.10†	(0.05)	0.09†	(0.05)	0.07	(0.05)
CEO Network	0.15**	(0.03)	–0.01	(0.03)	–0.01	(0.03)	–0.02	(0.03)
Firm-level controls								
Firm Age	–0.01	(0.03)	–0.06	(0.09)	–0.05	(0.09)	–0.04	(0.09)
Board Size	–0.03	(0.06)	–0.04	(0.07)	–0.04	(0.07)	–0.03	(0.06)

	CEO's additional outside directorship		Receiving Firm's Performance [b]					
Independent variables	**Model 1**		**Model 2**		**Model 3**		**Model 4**	
Size	0.45**	(0.07)	0.36	(0.24)	0.37	(0.23)	0.10	(0.23)
Leverage	0.18*	(0.07)	0.05	(0.12)	0.05	(0.12)	0.02	(0.11)
Top 10 percentage	–0.02	(0.04)	–0.00	(0.05)	–0.00	(0.05)	–0.01	(0.05)
Outsideness	0.00	(0.07)	–0.07	(0.09)	–0.07	(0.09)	–0.05	(0.09)
Board Network	0.23**	(0.04)	0.07*	(0.03)	0.08*	(0.03)	0.13**	(0.03)
Mills Ratio			0.01	(0.04)	0.01	(0.04)	0.00	(0.03)
Intercept	–3.72**	(0.19)	0.64**	(0.23)	0.69**	(0.20)	0.35†	(0.20)
Model statistics								
Pseudo R^2	0.06		0.15		0.15		0.50	
Goodness-of-fit of the model (Wald test)	327.29	(0.00)	327.55	(0.00)	159.43	(0.00)	147.01	(0.00)
Number of observations	21,783		2,322		2,322		2,322	

[a] Robust standard errors are in parentheses. All tests are two-tailed. $^{\dagger}\ p < .10$, $^{*}\ p < .05$, $^{**}\ p < .01$

[b] In Models 2-4, the event time (t0) is the year of the CEO-Director appointment

TABLE 3
Results of Tunneling and CEO Network Maintenance [a]

	CEO maintains outside directorships		Receiving Firm's Performance [b]					
Independent variables	**Model 1**		**Model 2**		**Model 3**		**Model 4**	
Hypothesis-testing Variables								
Tunneling	0.13†	(0.08)	–0.01	(0.02)	–0.03	(0.02)		
Before CEO leaving			–0.12†	(0.07)	–0.12†	(0.07)	–0.09	(0.07)
Receiving's Expected Performance							0.15**	(0.03)
Interaction terms								
Tunneling × Before CEO leaving					0.08**	(0.03)		
Receiving's Expected Perf × Before CEO leaving							–0.04*	(0.02)
CEO-level controls								
Source CEO Age	0.48**	(0.15)						
Source CEO Tenure	–0.10	(0.16)						
Source CEO Education	0.01	(0.10)						
Source CEO Duality	–0.24*	(0.12)						
Source CEO Network	0.12	(0.08)						
CEO Age	–0.07	(0.15)	0.02	(0.06)	0.02	(0.06)	0.02	(0.06)
CEO Tenure	0.03	(0.14)	0.04	(0.05)	0.04	(0.05)	0.04	(0.05)
CEO Education	–0.05	(0.10)	–0.04	(0.03)	–0.05	(0.03)	–0.04	(0.03)

	CEO maintains outside directorships		Receiving Firm's Performance [b]					
Independent variables	**Model 1**		**Model 2**		**Model 3**		**Model 4**	
CEO Duality	–0.12	(0.13)	0.05	(0.05)	0.06	(0.04)	0.06	(0.05)
CEO Network	–0.11	(0.09)	0.03	(0.03)	0.03	(0.03)	0.03	(0.03)
Firm-level controls								
Firm Age	–0.03	(0.09)	0.08	(0.08)	0.08	(0.08)	0.07	(0.08)
Board Size	–0.15	(0.18)	–0.04	(0.06)	–0.04	(0.06)	–0.06	(0.06)
Size	–0.19	(0.24)	0.22	(0.22)	0.22	(0.22)	0.09	(0.22)
Leverage	–3.70	(3.10)	–1.82*	(0.94)	–1.79*	(0.94)	–1.86†	(0.97)
Top 10 percentage	–0.31*	(0.13)	0.03	(0.04)	0.03	(0.04)	0.03	(0.04)
Outsideness	0.10	(0.24)	–0.01	(0.09)	–0.03	(0.09)	–0.02	(0.09)
Board Network	0.17	(0.11)	0.08*	(0.03)	0.08**	(0.03)	0.10**	(0.03)
Mills Ratio			0.00	(0.03)	0.00	(0.03)	0.00	(0.03)
Intercept	0.57	(0.74)	0.05**	(0.22)	0.05**	(0.23)	0.00	(0.22)
Model statistics								
Pseudo R^2	0.18		0.05		0.05		0.14	
Goodness-of-fit of the model (Wald test)	345.27	(0.00)	338.45	(0.00)	169.42	(0.00)	137.01	(0.00)
Number of observations	498		1,899		1,899		1,899	

[a] Robust standard errors are in parentheses. All tests are two-tailed. $^{\dagger}\ p < .10$, $^{*}\ p < .05$, $^{**}\ p < .01$

[b] In Models 2-4, the event time (t0) is the year of the CEO dismissal in the source firm

TABLE 4. Results of Logit predicting CEO Outside Board Appointment and Tunneling (Endogeneity Check for H1) [a]

Independent variables	Board Appointments (CEO's additional outside directorship)			
	Model 1 (High Network Density)		Model 2 (Low Network Density[b])	
Hypothesis-testing Variables				
Tunneling	-0.00	(0.03)	0.05*	(0.02)
CEO-Level Controls				
CEO Age	-0.05	(0.08)	0.03	(0.04)
CEO Tenure	-0.12	(0.07)	-0.24**	(0.05)
CEO Education	0.03	(0.05)	0.06†	(0.03)
CEO Duality	0.07	(0.07)	0.12**	(0.04)
CEO network	0.18**	(0.04)	-	-
Firm-Level Controls				
Firm Age	-0.01	(0.05)	-0.02	(0.03)
Board Size	-0.03	(0.10)	-0.03	(0.06)
Size	0.10	(0.12)	0.60**	(0.07)
Leverage	0.14†	(0.08)	0.13†	(0.07)
Top 10 Percentage	0.00	(0.07)	0.02	(0.04)

Independent variables	Board Appointments (CEO's additional outside directorship)			
	Model 1 (High Network Density)		Model 2 (Low Network Density[b])	
Outsideness	0.13	(0.12)	0.01	(0.07)
Board Network	0.12*	(0.06)	0.27**	(0.04)
Intercept	-3.45**	(0.31)	-3.12**	(0.19)
Model statistics				
Pseudo R^2	0.05		0.08	
Number of observations	4,569		23,669	

[a] Robust standard errors are in parentheses. All tests are two-tailed. $^{\dagger}\ p < .10$, $^{*}\ p < .05$, $^{**}\ p < .01$

[b] High Network Density is grouped by CEOs holding at leaset one directorship, while Low Network Density is grouped by CEOs with zero directorship.

TABLE 5

Results of Fixed Effect Estimations of CEO Network Creation, Maintenance and Tunneling by separating between period t-1 and t-2 [a]

	Receiving Firm's Performance (Time 0: The Year of CEO-Director Appointment)				Receiving Firm's Performance (Time 0: The Year of CEO Dismissal in Source Firm [b])			
Independent variables	**Model 1**		**Model 2**		**Model 3**		**Model 4**	
Hypothesis-testing Variables								
Tunneling	0.03	(0.02)	0.01	(0.02)	–0.02	(0.02)	–0.00	(0.02)
Before CEO appointment/leaving (t-1)	–0.05	(0.06)			–0.03	(0.05)		
Before CEO appointment/leaving (t-2)			0.07	(0.08)			–0.03	(0.06)
Interaction terms								
Tunneling × Before CEO appointment/leaving (t-1)	0.01	(0.04)			0.12*	(0.03)		
Tunneling × Before CEO appointment/leaving (t-2)			0.23**	(0.05)			–0.00	(0.03)
CEO-level controls								
CEO Age	0.05	(0.08)	0.04	(0.08)	0.03	(0.06)	0.03	(0.06)
CEO Tenure	–0.12	(0.08)	–0.14†	(0.08)	0.04	(0.05)	0.05	(0.05)
CEO Education	0.02	(0.04)	0.02	(0.04)	–0.05	(0.03)	-0.05	(0.03)
CEO Duality	0.09†	(0.05)	0.09†	(0.05)	0.06	(0.05)	0.05	(0.05)

	Receiving Firm's Performance (Time 0: The Year of CEO-Director Appointment)				Receiving Firm's Performance (Time 0: The Year of CEO Dismissal in Source Firm [b])			
Independent variables	**Model 1**		**Model 2**		**Model 3**		**Model 4**	
CEO Network	-0.01	(0.03)	–0.01	(0.03)	0.03	(0.03)	0.03	(0.03)
Firm-level controls								
Firm Age	–0.05	(0.10)	–0.04	(0.09)	0.08	(0.08)	0.09	(0.08)
Board Size	–0.03	(0.07)	–0.01	(0.07)	–0.03	(0.07)	–0.03	(0.07)
Size	0.47†	(0.26)	0.48†	(0.25)	0.24	(0.23)	0.25	(0.23)
Leverage	0.05	(0.12)	0.06	(0.12)	–1.73†	(0.97)	–1.79†	(0.99)
Top 10 percentage	0.02	(0.05)	0.02	(0.05)	0.04	(0.05)	0.04	(0.05)
Outsideness	–0.14	(0.10)	–0.14	(0.10)	–0.07	(0.09)	–0.07	(0.09)
Board Network	0.08*	(0.04)	0.09*	(0.04)	0.08*	(0.03)	0.08*	(0.03)
Mills Ratio	0.00	(0.04)	0.00	(0.04)	0.00	(0.03)	0.00	(0.03)
Intercept	0.71**	(0.22)	0.69**	(0.22)	0.14	(0.23)	0.13	(0.22)
Model statistics								
Pseudo R^2	0.15		0.15		0.05		0.05	
Number of observations	2,322		2,322		1,899		1,899	

[a] Robust standard errors are in parentheses. All tests are two-tailed. † $p < .10$, * $p < .05$, ** $p < .01$

[b] In Models 1-2, the event time (t0) is the year of the CEO-Director appointment; In Models 3-4, the event time (t0) is the year of the CEO-Dismissal.

TABLE 6. Results of Fixed Effect Estimations CEO Outside Board Creation and Tunneling (Separating by "Tunneling")[a]

	Receiving Firm's Performance (Time 0: The Year of CEO-Director Appointment)			
Independent variables	**Model 1 (Source firm's Tunneling >0[b])**		**Model 2 (Source firm's Tunneling <=0)**	
Hypothesis-testing Variables				
Tunneling	0.03	(0.09)	-0.04	(0.06)
Before CEO appointment	-0.15	(0.16)	0.01	(0.19)
Interaction terms				
Tunneling × Before CEO appointment	0.35**	(0.12)	0.12†	(0.06)
CEO-Level Controls				
CEO Age	-0.07	(0.09)	0.32†	(0.19)
CEO Tenure	0.04	(0.08)	-0.67**	(0.19)
CEO Education	-0.03	(0.04)	0.09	(0.08)
CEO Duality	0.13*	(0.05)	-0.05	(0.13)
CEO network	-0.01	(0.03)	0.05	(0.07)
Firm-Level Controls				
Firm Age	-0.01	(0.10)	-0.12	(0.22)

Independent variables	Receiving Firm's Performance (Time 0: The Year of CEO-Director Appointment)			
	Model 1 (Source firm's Tunneling >0[b])		Model 2 (Source firm's Tunneling <=0)	
Board Size	-0.00	(0.08)	-0.08	(0.15)
Size	0.47	(0.29)	0.55	(0.50)
Leverage	0.06	(0.14)	0.05	(0.23)
Top 10 Percentage	-0.06	(0.05)	0.23†	(0.14)
Outsideness	-0.11	(0.11)	-0.24	(0.22)
Board Network	-0.01	(0.04)	0.24	(0.07)
Mills Ratio	0.11	(0.09)	-0.03	(0.07)
Intercept	0.28	(0.47)	0.94†	(0.51)
Model statistics				
Pseudo R^2	0.13		0.11	
Number of observations	762		657	

[a] Robust standard errors are in parentheses. All tests are two-tailed. † $p < .10$, * $p < .05$, ** $p < .01$

[b] Separating "Tunneling" based on event year t-2. Observations that have missing "Tunneling" in year t-2 were dropped.

Chapter 4

Back You Up or Drag You Down? The Dark Side of Social Capital in Stigmatization

4.1 Introduction

Given the centrality of corporate system in our modern economy, the corporate elites (executives) has been the central of the commentary society and their ability to bring about favorable organizational outcomes has become the most evaluated aspects for executives. A process of stigmatization is evoked to associate a mark of shame or discredit with the executives when they experience devaluating events like the disclosure of low firm performance, accidents, or bankruptcy. Wiesenfeld et.al (2008) develop a theoretical model and elucidate that the process of stigmatization, which is embedded in the social context where social, legal, and economic audiences act as effective arbiters by rewarding or penalizing executives according to their estimated ability, translates the failure into negative reputation and image, denigration, and professional devaluation. In the body of literature, researchers have shown that stigma is devastating to executive careers (Sutton and Callahan, 1987). Stigmatized executives suffer from the sanctions of stigma with particular attention to the welfare effects of situations such as unemployment, wage differential. They tend to be fired, they tend not to be hired elsewhere, and those who are hired tend to be hired in lesser capacities or at lesser firms.

Stigma leads executives of failing organizations to strive to manage their links to the stigmatizing event. Semadeni et.al (2012) broadly categorized stigma management options according to whether the individual is discredited or only discreditable. Under

the circumstances where the executive has been discredited, stigma management involves actions such as alibis (see Elsbach, 1997) or accounts in annual reports and press releases that attribute the disappointing results to uncontrollable factors in external environment (e.g. for a review, see Elsbach, 2003). These attempts seek to distance executives from stigmatizing event by managing information about their connection to it. Stigma management among the discreditable involves maintaining a time separation between the individual and the stigmatizing event. In other words, if an executive has not been discredited, but is discreditable, he or she can jump ship, distancing him or her by leaving prior to the stigmatizing event.

Apart from focusing on the tactics opposing sanctions of stigma adopted by the stigma bearer, social network research extended the long-held view of social capital that those elites who possess abundant social capital may have information, influence, and solidarity resources available to exert influence that diminishes the relationship between stigma and devaluation and protect them from shunning by their peers (Adler & Kwon, 2002). Social capital lends itself to multiple definitions, interpretations, and uses. Social capital is defined as "the collective value of all social networks (who people know), and the inclinations that arise from these networks to do things for each other (norms of reciprocity)." Social capital, in this view, emphasizes specific benefits that flow from the trust, reciprocity, information, and cooperation associated with social networks. Certain corporate leaders may be less vulnerable to being singled out for stigmatization because both arbiters and their audience harbor goodwill toward them and are reluctant to denigrate them. For instance, Nguyen (2012) evidenced that interpersonal ties among managers may restrict the negative employment consequences of their firms' unsatisfactory performance. Interlocking directorships serve the managerial purpose of accumulating power and prestige (Davis, 1991) as well as finding more easily a new job after resignation/dismissal (Zajac, 1988), even if they lack the skills and legitimacy needed for the new position (Westphal & Stern, 2006).

Almost all the extant research focuses predominantly on the benefits of possessing abundant social capital that acts as opposing source in stigmatization process. However, little research has tried to study the possibility that such social capital may have certain negative consequences.

In 'Corporate Social Capital and Liability' (Leenders and Gabbay, 1999) it is suggested that organizations themselves are actors embedded in social structure and that they enjoy the benefits and suffer from the obstacles that this social structure

brings. For example, long-standing relationships with customers may stifle a firm by monopolizing a disproportionate share of its resources, inhibiting the firm to form relationships with alternative customers. Actors may be unfavorably affected in their opportunities by negative ties in the social structure. Brass and Labianca (1999: 324) argue that 'it is likely that an actor's negative ties within an organization will prevent promotion, particularly if those negative relationships are with influential others. Gargiulo & Benassi (1999) show that the network that in the past had provided managers with ample social capital later increased the number of coordination failures for which these managers were responsible. The network had become a constraint, impeding their performance.

These findings led us to suggest that social connections are more a means of impeding ties bearers than a channel for benefiting. Thus, social capital may have a dark side by enhancing the spread of stigma, which hinder the capacity of stigma management intended by corporate elites.

By combining the above stigmatization and social network arguments, in this study we provide a competing view that instead of relieving the stigmatization, social capital can also enhance the intension of stigmatizing effect on failed CEOs. In particular, using a sample of 355 leading managers that served for 562 US firms from year 2004-2012, we examined the situations in which the social capital can enhancing the stigmatization caused by corporate failure.

Our research contributes to the growing literature in organization theory and the social processes by which corporate leaders influence the behavior of information intermediaries and other external constituents. First, we consolidate the network's power on manager labor market by providing the evidence that social capital helps mitigate stigma by providing specific access to moving to the part of network. Although prior research has devoted attention to social network in relations between forced CEO turnover and likelihood of reemployment (e.g. Nguyen (2012)), our study extends this work by examining the specific conduit through which the social network mitigates consequences of stigma, instead of calculating the aggregate number of social network. Second, we make a significant contribution to research on stigmatization in several ways. We contribute to stigmatization process, in particular dark side role of social capital in stigmatization, by showing how social network drags down stigmatized executives. Almost all the extant research focuses on the positive effects of social capital in mitigating stigmatization. Emphasizing the accruing over abundant networks that compromise information transmitting of stigma and its

negative consequences in labor market for stigmatized elites, we present a unique contribution to the stigmatization literature. Moreover, this study extends recent theorizing by Wiesenfeld et al. (2008) and Wurthmann (2014) to develop and test several related hypotheses about how different types of social capital can negatively moderate the relationship between corporate failure and settling up outcomes for failed CEOs. By focusing on the influence of social capital based on characteristics of elite's social networks, we incorporates this important literature into the literature on settling up. This paper thus helps to enrich the picture of the role of social capital in stigmatization. Third, we contribute to stigma management theory by considering the negative consequences of network membership. The extant stigma management research majorly focuses on the strategy of building extensive social networks in managing stigmatizing events without considering the trade-offs that emanate from the negative consequences of network membership (e.g. Westphal et al. (2011); Westphal et al. (2012)). Finally, we also contribute to upper echelon theory by showing how elite circle may abandon one member when the member has been singled out for a stigma. By showing the ties with firms that have high corporate governance can enhance the stigmatization, we also provide new insights that further extend the conversation about effectiveness of global corporate governance in disciplining executives to include notions of settling up process based on ties to well-governed firms.

4.2 Theory and hypotheses

4.2.1 The mitigating role of social capital

Social network in general can be referred to as a social structure made up of a set of actors such as individuals or organizations or even entire societies. At an individual level of analysis, social network can be interpersonal relation built on obviously observable interactions, such as the connectedness directly through overlapped employment in a same company or director interlocks (individual directors' presence on two or more boards). Executives or directors comprising the core executive suite of company amplify the magnitude of networks by attending numerous economic and social activities. As core of executive suites, managers are the front line of companies to maintain day-to-day operations and organize the momentous deals, in particular, the deals with business partners such as suppliers and buyers; strategic alliances; joint investment projects by which the managers naturally accumulate collective interaction and communication with senior managers (and potential or actual CEOs) of other

companies.

Such social relations tying a focal manager to other peers can derive social capital that may have information, influence, and solidarity resources available to support them in labor market (Adler & Kwon, 2002).

The availability of social capital accumulated from the network of firms during the managers' tenure can constitute more favorable re-employment odds for the well-connected managers than those non-connected managers. Through collaborative agreements with business partners such as suppliers and buyers, strategic alliances, and joint investment projects, managers interact with senior managers of other firms and often develop personal relationships that may be useful to secure them employment opportunities outside their own firm. The information that network carries can facilitate job opportunities. As representatives of their firms, top executives of participating firms have the opportunity to interact with their counterparts, allowing them to take advantage of the collaboration among firms to build their own network of contacts. Information that leads to action is most likely to move through chains of personal contacts and facilitate job opportunities (Khurana, 2002). CEO's overall connectedness represents his or her social capital and outside employment opportunities (Burt (1992) and Granovetter (1995)). A better-connected CEO is more likely to find a good new position after departure from the current firm.

More importantly, the more social capital an individual elite possesses, the more friendship and network resources available to protect him or her from the devaluing effects of stigmatization. Executives interact with senior managers of other firms and often develop personal relationships that may define a pattern of interpersonal influence behavior that serves to "enhance one's reciprocal attractiveness" or "gain favor" with another person. These favors can create a diffuse, generalized commitment among individuals through norms of reciprocity whereby people feel obligated to repay the favors and gifts they receive (Pfeffer, 1992). Such obligations may be "called in" when an individual with social capital requires them, such as when his or her career is at risk. These norms of reciprocity, thus, act as a countervailing force against the effects of stigmatization, encouraging an individual's friends and others who are bound in a web of interrelationships not to shun or devalue the individual. Such an expectation is consistent with empirical findings that social network is likely to result in access to the best appointments, even after an individual's association with a failure. Motivated by the theories of social capital and agency, El-Khatib et al. (2012) find that those well-connected CEOs (with high

centrality in terms of interlocking directorship) are unlikely to be disciplined by the managerial labor market and are more likely to be appointed into another CEO position after a value-destroying M&A deal.

According to the class alliance approach, interpersonal ties formed among directors serving in different boards create the basis for defending their elite class' interests and for agreeing on political strategies to influence the political sphere to their respective firms' advantage (Useem, 1984). Such accumulation of power and prestige makes these executives attractive in the market for executives, which tend to be biased toward the executive elite —sometimes at the expense of shareholders' interests (Useem & Karabel, 1986; Zajac & Westphal, 1996). Therefore, when executives are members of this elite alliance, they may find easier to obtain a job in another firm in spite of the lack of skills needed for the position. In accordance with elite cohesion, Nguyen (2012) shows that CEOs belonging to close social circles (using membership of prestigious civil service corps and membership in the Inspection of Finances and Mines as proxies) are more likely to find a new and good job after a forced departure.

In sum, social network derive social capital as an opposing resource of pressure on economic arbiters that countervails the effects of stigmatization. Hence, our baseline hypothesis, Hypothesis 1 reads:

Hypothesis 1. Networks reduce stigmatization caused by corporate failure.

4.2.2 Moving to the part of network

Not only can social network create general opportunities through the open job market, but also enable workers frequently locate jobs through friends and relatives (Granovetter (1973 and 1974)). For instance, invitations to join boards of directors move along networks of long-term friendships and personal contacts (Khurana, 2002; Useem, 1984; Zajac, 1988). Moreover, by serving in outside boards, managers of focal firms have the opportunity to establish personal relationships with the directors of receiving firms, who are the last responsible of the appointment of potential managers (Mace, 1986). Westphal and Stern (2006) use survey data from a sample of managers and CEOs from Forbes 500 firms to demonstrate that better connectedness between managers and their CEO increased the likelihood that managers would obtain board appointments, on boards for which the CEO serves as an outside director, but also on boards for which the CEO is indirectly connected through board interlocks.

Moreover, when potentially culpable individuals relocate job in a firm within personal network after the failure, they have all incentive to take advantage of eventual receiving firms and use their personal relationships to buttress potential consequences that they are accountable for from the failure. Within this framework, managers' networks play a pivotal role in the eventual management of stigmatization. These managers take into consideration that the degree of protection they will enjoy in those socially-connected firms if they decide to move to these firms. Research has shown that managers have greater access to higher compensation when they have been able to build a network of personal ties with board members. Links between the CEO and the board could prevent the board of directors from effectively monitoring and objectively disciplining the CEO. Board directors who are not socially independent from the CEO may retain a poorly performing CEO or agree to high compensation without justification (Hwang and Kim (2009)). The common theme is that social networks jeopardize corporate governance either by distorting the incentives or abilities of the boards of directors to effectively monitor the CEOs. Consequently, connected CEOs receive higher compensation and are less likely to be subject to turnover. Hence, we predict

> *Hypothesis 2. After stigmatizing event occurred, executives who find a job in a connected firm within personal network will suffer fewer employment consequences than those who find a job in a previously unconnected firm.*

4.2.3 The dark side of social capital

Contemporary social network theories indicate that social network does not necessarily induce social capital. In 'Corporate Social Capital and Liability' (Leenders and Gabbay, 1999) it is suggested that organizations themselves are actors embedded in social structure and that they enjoy the benefits and suffer from the obstacles that this social structure brings. When social structure benefits corporate players in the attainment of their goals, social structure is said to convey 'corporate social capital,' when it obstructs them it brings 'corporate social liability.' As an example, Gargiulo & Benassi (1999) show that the network that in the past had provided managers with ample social capital later increased the number of coordination failures for which these managers were responsible. The network had become a constraint, impeding their performance. Brass and Labianca (1999: 324) argue that 'it is likely that an actor's negative ties within an organization will prevent promotion, particularly if those negative relationships are with influential others. Others may withhold critical

information that worsens an actor's performance or they may provide bad references in order to prevent a promotion.'

Similarly, as corporate elites are constantly reshaping the boundaries, network building moves in a direction—from more specific and controllable attributes to more complex and less controllable characteristics that may increase the heterogeneity of characteristics of network ties. Diverse concerns of different ties may thus emerge to distract the motive to carry troubled elite and even lead to more severely negative attributions in stigmatization. Fich and Shivdasani (2007) found that when a firm faces a fraud class action lawsuit, other firms that employ outside directors of the defendant firm also experience a significant decline in valuation. The negative returns reflect investors' concerns about an increased probability that the director-interlocked firm is susceptible to fraud. They also conduct an event study around the loss of directorships. Fraud-affiliated directors are more likely to lose directorships at firms with stronger corporate governance and their departure is associated with valuation increases for these firms. The departure of stigma-associated directors becomes welcome news for shareholders of interlocked firms. Once an individual CEO has been singled out for stigma, the information about the person's qualities (including his or her strategic judgment, leadership and interpersonal capabilities, and integrity) becomes salient and enters into connected elites' decisions about maintaining relationships with that individual. The social and economic interdependence with other connected elites can change so greatly that informants who previously had no motive to provide information or who were afraid to provide the information are suddenly emboldened.

Therefore, the kind of network may become important in determining its effect in stigmatization. The specific nature of social ties may vary from playing a role in buffering elites with social capital from stigma to enhancing it by the influence of information traveling through network ties. In this view, it is useful to identify when contingencies create a context in which embeddedness will enhance stigmatization. We propose a midrange perspective based on the contingency aspects of social capital in the specific context of embeddedness—that is, characteristics of network.

Centrality

The diffusion of stigma is embedded in a social context within the community of arbiters with channels where stigma from one set of arbiters will often draw the attention of other arbiters. Interpretations of one or more arbiters become a source

of important social information that drives other arbiters to weigh in. Once an arbiter targets an individual CEO and his or her specific personal defects, the stigmatization process often diffuses and expands to reach a wider set of audiences.

The diffusion of stigma from one group of arbiters to another may also be influenced by the functional relationships between them. For example, in a process that is no doubt exacerbated today by the internet and other electronic media, a local story about a CEO's missteps can rapidly diffuse to every corner of society, thrusting the CEOs into the limelight with wider audience. In this view, networks can enhance the speed of spread and expansion.

An actor is said to be prominent if its ties make it visible to the other actors in the network (Wasserman & Faust, 1994). A central actor is involved in many ties. An actor with a high degree of centrality is in direct contact with many other actors, is recognized as a major channel of information, and thus is highly visible and prominent (Wasserman & Faust, 1994; Knoke and Burt (1983)).

Position in a communication network, for example, has been shown to influence group performance and individual influence and is also likely to affect interorganizational information (Bavelas, 1950). Specific information channels and their effect on the diffusion process have also been explored. Mass media, for example, is influential in the early stages of diffusion, while interpersonal contacts become more important later (Rogers, 1995). The connected peers attend to information of the firm of source CEO and, in turn, spread information to the opinion followers through their interpersonal networks.

High network centrality means that information and resources flow around the network (Gilsing et al., 2008). These network ties give arbiters access to specific and personal information about elites, which may serve as a proxy for the speed and reliability of information transmission, influences the effectiveness of firms' signaling mechanisms, which are argued to be more important in situations where the focal actor's quality is unobservable.

Hence, while such centrality may result in greater visibility and exposure to community of arbiters, thrusting the CEOs into the limelight with audience, it may also reach a point where it becomes hard for any individual to hide their defects and could result in greater sensitivity of performance to criticism or increased stigma effects.

Hypothesis 3. High centrality increases stigmatization caused by corporate failure.

Corporate Governance Strength of Networks

As mentioned above, a stigmatizing event of focal CEO can serve as a negative signal of the reputation of connected firms and elites, leading investors to revise downward the valuation of the associated ties. The innocence of connected firms and the security of executive position are highly placed at risk when a connected CEO has been singled out for stigma.

Additionally, firms with high corporate governance have higher concern about reputation, culpability or stock performance and the executives of them experience higher turnover to performance sensitivity (Kang and Shivdasani (1995)). Fich and Shivdasani (2007) show that fraud-affiliated directors are more likely to lose directorships at firms with stronger corporate governance and their departure is associated with valuation increases for these firms. The incentive to preserve the board's reputation will be greater for firms with strong governance and hence well-governed firms are likely to be more proactive in replacing directors with damaged reputations. By distancing themselves from the focal elite with stigma, connected peers can avoid or reduce the stigma they otherwise would suffer. Moreover, removing a corporate elite from another company further stigmatizes the elite by casting in a negative light stemming from "being abandoned" by partners. Such act of visibly shunning a stigmatized elite, by dismissal or clearly forced resignation, may yield important benefits for network parties. By shunning the stigmatized elite, connected ones differentiate themselves and their organizations from the tainted. The act of visibly shunning a stigmatized leader helps to establish a perceptual boundary between the connected actors and the stigmatized, which, in turn, may serve to protect them from any courtesy stigma that could emanate from a relationship with the stigmatized focal actor.

Furthermore, according to the class alliance approach, interpersonal ties formed among directors serving in different boards create the basis for agreeing on strategies to influence the sphere to their respective firms' advantage and work as a clique to promote upper-class cohesion (e.g. Palmer, 1983; Useem, 1984). Once an individual elite is marked with stigma such as defects in governance or strategic judgment, such situation triggers a constellation of goals and concerns in other elite members,

questioning the qualification of belonging to the member of firms with high corporate governance for the stigmatized elite. A desire to protect the class may emerge and send a symbolic message that could further stigmatize the elite by signaling the defects and inadequacy and have a negative effect on the elite's employability and compensation. Hence, our hypothesis reads

> *Hypothesis 4. Networks that have strong corporate governance enhance stigmatization caused by corporate failure.*

4.3 Methods

4.3.1 Data sources and sample

We developed a unique dataset by combining three databases: OSIRIS, EXECUCOMP, and COMPUSTAT. From EXECUCOMP, we gathered information on manager employment and compensation. We calculated manager's network based on OSIRIS director and executive database. Finally, COMPUSTAT provides data on firm's financial performance.

We collect all top CEOs in US firms appeared in EXECUCOMP from year 2004-2012. Among all the firm's members, it is the CEO who is the symbolic representative of the organization, who is viewed as having the widest span of influence and who is tapped for acclaim and the broadest responsibility. Since we are interested in the job change and its effect on compensation variation through the manger's career, we leave out the CEOs that have no change of jobs in this period. The final sample consists of 335 top CEOs that have changed job from 2004-2012. They served for 402 firms during this period, for which we match financial data from COMPUSTAT.

We also introduce the secondary interlocking directorships of managers into the definition of network. First-degree connections involve only one manager connecting two firms by sitting on the board of the second firm while second-degree connections involve one manager from the focal firm and one manager from the second firm connecting the two firms through their board representation on another third firm. Westphal and Stern (2006) use survey data from a sample of managers and CEOs from Forbes 500 firms to demonstrate that better connectedness between managers and their CEO increased the likelihood that managers would obtain board appointments, on boards for which the CEO serves as an outside director, but also on boards for which the CEO is indirectly connected through board interlocks.

Therefore, for this crucial purpose of the paper, we construct an annual firm-to-firm manager matrix and use a matrix transformation method to measure manager outside directorships. We took advantage of the identification numbers conferred by Osiris to every firm, manager, and director to map out the extensive social networks formed by managers and directors. Osiris is a database compiled by Bureau van Dijk and provides information on finance, ownership, and earnings for 38,000 companies from over 130 countries. It should be noted that my method only accounts for cross-directorships that managers hold in firms in the OSIRIS sample, not in all other firms.

The sample resulting from combining these three databases is an incomplete panel of 335 CEOs over the period 2004–2012. Also, in order to reduce problems of skewness and Kurtosis, we winsorized firm-level control variables at the 3th and 97th percentile levels.

4.3.2 Dependent variables

The estimation of the effect of stigma on likelihood of ship jumping is made relying on the following variables (see Appendix I for definition and descriptive statistics).

In order to test the effect of changing job inside or outside network after stigma on executive's labor consequences, we also gathered two outcome measures that exist only for executives who are found reemployed in the dataset. The first measure is demotion, which is coded as 0 or 1, with 1 indicating that the title held after the failure is lower than the one held prior to the failure. The titles of all executives prior to the failure were coded into one of three groups (in order of importance): chairman/CEO; president; or executive vice president. A movement downward from one group to another constitutes a demotion. The second measure is compensation increase, which is calculated according to the following formula: Compensation (t) – Compensation (t-1) where compensation is manager's salary, bonus, all short term and long term incentives, and non-exercised option.

Compensation Increase. It is calculated according to the following formula: Compensation (t) – Compensation (t-1) where compensation is manager's salary, bonus, all short term and long term incentives, and non-exercised option.

Demotion. It is coded as 0 or 1, with 1 indicating that the title held after changing job is lower

than the one held prior to the change.

4.3.3 Hypotheses-testing variables.

Stigmatizing event. It is a dummy that takes 1 if the firm is bankrupt or delisted from equity market due to liquidation in the past two years before CEOs change jobs and 0 otherwise. We double-check the data from Bureau van Dijk to the company filings, and in addition, in our analysis on the bankruptcy proceedings, we provide robustness checks using the ownership data as reported in the bankruptcy filings.

Centrality. In social networks, individuals (nodes) form links to other individuals, and the links and nodes form the network (Jackson, 2010). The position of each node in the network is not random and some positions assume power when they link to more individuals (Jackson and Roberts, 2007). The most straightforward centrality measure is degree. It was first suggested by Proctor and Loomis (1951) to indicate how active a node is. The absolute degree of a node x is the number of edges connecting x with other nodes. In our dataset, we measure CEO's centrality by calculating the total number of manager outside directorships (only taking into account the first-degree connections as board member in another firm).

In order to test the effects of different scales of centrality, we order the CEOs according to the number of directorships that they hold and separate them in three quantiles. ***High centrality*** is a dummy that takes 1 if the CEO's total number of outside directorships falls into the top 25% quartile of all CEOs in the sample. ***Medium centrality*** is the dummy taking 1 when the CEO's number of outside directorships falls into the second and third quartiles.

Strength of the network's corporate governance. We construct an index from three widely researched dimensions that capture different aspects of a company's corporate governance, namely: Outside director percentage, Non-CEO duality and Top10 shareholders stake (e.g. Weisbach, 1988; Finkelstein and D'Aveni, 1994; Sheleifer and Vishny, 1997)**.** We take different dimensions that capture the development of a firm's corporate governance. In particular, we apply factor analysis method that unidimentionally searches for the joint variation in response to the quality of corporate governance among these variables. For some interaction terms, we define the **High (Low)** ***Corporate Governance strength (CG)***, which is the total number of CEO's network firms with Corporate Governance Score above (below) the mean of the sector for the corresponding year.

Jump inside network. This variable is a dummy that takes the value of 1 if the manager found a job in those firms tied with the focal firm through the presence of the manager in the board. In other situations, this variable gets the value of 0.

Jump outside network. This variable is a dummy that takes the value of 1 if the manager found a job in those firms that have no ties with the focal firm through the presence of the manager in the board. In other situations, this variable gets the value of 0.

4.3.4 Control variables

CEO-level and Firm-level control variables. We controlled for CEO age. We expected that, as CEOs approach to retirement, they might be less paid. As for the Firm-level controls, we included a number of measures that prior research has suggested may be important determinants of manager compensation and rank. *Firm performance* is measured by ROA. We approach *firm size* through the log of total assets. All control variables were included in differences in order to tackle the effects of the characteristics of the focal and the receiving firms.

Industry-level controls and temporal-level controls. Finally, we controlled for industry and temporal effects. The likelihood of ship jumping is contingent on the industry origin of focal managers as well as the moment of the economic cycle. For example, most industrial firms appoint bank officials as board members for capital allocation reasons (Mizruchi, 1996), particularly in recessions. We therefore controlled for this potential source of unobserved heterogeneity by including industry dummy variables (at 2-digit SIC code) as well as temporal dummy variables.

4.3.5 Analysis

To test Hypothesis 1, we therefore used the following specification:

$$\textit{Compensation Increase}_{it} = \alpha_1 + \alpha_2\ \textit{Stigma}_{it} + \alpha_3\ \textit{Stigma x Social Capital (Total No. of Networks/Jump inside Network/High Centrality/High CG Networks)} + \alpha_4\ \textit{CEO and Firm controls}_{it} + \alpha_5\ \textit{Industry/Temporal controls}_{it} + \eta_i + \varepsilon_{it}. \textit{ (1)}$$

Specifications (1) include two additional error terms, η_i and ε_{it}. A firm-specific

component of the error term (η_i) was included to account for the firm-specific unobservable heterogeneity that may be correlated with independent variables, and ε_{it} is a random-noise residual.

Using this specification, Hypothesis 1 and 2 would be supported if α_3 is positive when social capital is ***total no. of networks*** and ***Jump inside Network***. On the contrary, Hypothesis 3 and 4 would be supported if α_3 is negative when social capital is ***High Centrality*** and ***High CG Networks***.

The categorical nature of our dependent variables using Demotion has led us to employ logit estimation techniques in testing such contentions. Therefore, we estimated the following specifications:

$$Demotion_{it} = \beta_1 + \beta_2\, Stigma_{it} + \beta_3\, Stigma \times Social\ Capital\ (Total\ No.\ of\ Networks/Jump\ inside\ Network/High\ Centrality/High\ CG\ Networks) + \beta_4\, CEO\ and\ Firm\ controls_{it} + \beta_5\, Industry/Temporal\ controls_{it} + \eta_i + \varepsilon_{it}. \quad (2)$$

Support for Hypothesis 1 and 2 would therefore require the coefficient β_3 to be negative when social capital is ***total no. of networks*** and ***Jump inside Network***. Accordingly, Hypothesis 3 and 4 would be supported if β_3 is positive when social capital is ***High Centrality*** and ***High CG Networks***.

In estimating this second specification, we restricted the sample to those CEOs that have found a new job. Then, in order to avoid finding inconsistent parameters and identification problems, before estimating this specification we use a two-stage regression, the first stage of which includes CEO tenure, duality, board size and yields the inverse Mills ratio that controls for the likelihood of a result being found in the EXECUCOMP database in the second model (Pindyck and Rubinfeld, 1998; Heckman, 1979). From this intermediate model, we computed the mills ratio (Greene, 2012), which was included in the definitive estimation of specification (1) and (2). For each CEO who found new job, we identified a matching non-found CEO based upon demographic proximity and firm asset size. We searched the Osiris database of all managers of US firms to determine which CEOs were still unemployed as of July 2013. This step yielded a total of 335 CEOs who found job and 335 CEOs that did not find job.

4.4 Results

Tables 1 report descriptive statistics as well as the correlation matrix. Data shows that CEOs have a mean of 0.43 linkages in other boards with a maximum of 6 positions and they are, on average, 54.4 years old. In terms of size and profitability, firms in the final sample have a mean of $1.35 billion and a ROA of 2.76%, hence they are large firms with a ROA not particularly high, which is standard in mature firms.

Correlation matrix shows that stigmatizing event is positively correlated to moving to a connected firm, while the moving outside network has a negative correlation. Remarkably the number of networks with high corporate governance variable (High Corporate Governance) has a significant negative effect on CEO changes within the network and demotion. Thus, it seems that CEOs surrounded by firms with high corporate governance are more disciplined in terms of mobility in network and promotion. We are going to analyze this conjecture once we estimate specifications.

Insert Tables 1 about here

4.4.1 Tests of hypotheses

To examine the network's effect on labor market after corporate failure, the hypotheses are tested using compensation increase and demotion as dependent variables.

Hypothesis 1 predicts that in general, the social network positively moderate the effect of stigmatizing event on labor market consequences. To test the executive labor market outcomes between moving to a firm within network and a firm outside network, Hypothesis 2 predicts moving to a firm within executive's network will result in smoothing effect of compensation raise than moving to an unconnected firm. To rule out any remaining time-invariant unobservable characteristics of connected CEOs that may lead to better compensation, we perform an analysis with executive fixed effects.

Focusing on Table 2, Models 1 and 3 present the baseline models while Models 2 and 4 introduce an interaction term that evaluates the effect of social networks held by failed CEOs in the year of departure. In Model 2, we find a positive estimate for total

number of networks on compensation increase and negative estimate on demotion ($\alpha_3 = 0.46,\ p < .001$), indicating that there is a smoothing effect on stigmatization for CEO holding networks. Similar result is found in Model 4 that provides the result of a logistic regression model using demotion as dependent variable. In Model 2 and 5, a significantly positive estimate is found for the stigma * jump inside network interaction coefficient to support Hypothesis 2 that jumping inside the network can buffer the stigmatization. CEOs who moved to connected firm were more likely to maintain their compensation and title regardless of their past performance.

Insert Tables 2 about here

Turning to Table 3, stigmatization is negatively moderated by high centrality using top quartile of total directorships held by CEO as proxy ($\alpha_4 = -0.30,\ p < .01$), supporting Hypothesis 3 that high centrality contributes to stigmatization process. In comparison, the interaction term of medium centrality has no significant effect.

In Table 4, corporate governance shows a different pattern contingent on the strength. Model 1 shows that the number of network with high corporate governance strongly enhance the intension of stigmatization ($\alpha_4 = -0.30,\ \mathrm{p} < .01$) and thus Hypothesis 4 is supported. On the contrary, there is smoothing for a larger number of low corporate governance ties ($\alpha_3 = 0.46,\ \mathrm{p} < .001$, and $\alpha_3 = 0.46,\ \mathrm{p} < .001$) and this result conforms to Hypothesis 1 that network works to mitigate stigmatization. Remarkably, the ties with characteristic of low corporate governance have higher effect than the overall number of network. According to the results of Table 4, we can argue that the positive moderating effect of total number of network is actually suppressed in the context of a large number of high corporate governance ties.

Insert Tables 3 and 4 about here

4.5 Discussion

Mitigating stigma with social capital suggests that the more the better the social network is. In this study, instead of focusing on the mitigating effect, we reexamine the effect of social network on stigmatization process by identifying the circumstances under which the social network can enhance the stigmatizing effect on elites after corporate failure.

Our results confirm findings in the literature that the total number of social networks buffers the consequences of career suffering from stigma. However, for the managers with over abundant networks, the moderating role of networks is reversed. Increasing the volume of their linkages also increases visibility, which may amplify the effect of stigma.

Closer examination of our analyses reveals that when failed CEO is tied to firms with low corporate governance, the labor consequences of the CEO are buffered. This effect is much higher than the overall number of networks. Quite the contrary, the ties with high corporate governance contribute significantly to stigmatization process. The overall positive moderating effect of networks is partially balanced out by ties with high corporate governance.

Our discussion thus suggests that social capital is not fruitfully and generalizably measured by the volume of ties maintained by a CEO—in some situations an increased number of ties yields mitigating effects, in other situations it yields increased consequential of stigma. Overall then, greater support is found for a contingency view of CEO outside board networks. It is not only the volume of ties per se that counts, but also the characteristics of parties with whom relationships are maintained. In order to understand which type of network bestows stigmatized elites with buttress of social capital, we have to consider all aspects of the network rather than just a rough sum.

The extant stigma management research majorly focuses on the strategy of building extensive social networks in managing stigmatizing events without considering the trade-offs that emanate from the negative consequences of network membership (e.g. Westphal et al. (2011); Westphal et al. (2012); Wiesenfeld et.al (2008)). By exposing the potentially deteriorating effects of network in stigmatization process, our paper also implies the trade-off between forming and constraining social networks on stigmatization process. Network centrality as well as connections with firms that have high corporate governance reinforces CEO position at the focal firm (firm-level entrenchment). But, as the amount of network increases, the negative influences may outweigh the positive ones that the network brings. As a result, if the stigmatized CEO had to finally move to another firm (entrenchment failure), then there is a penalty. How do corporate elites manage the trade-off between the “opposing source of pressure” on arbiters derived from accumulating social networks with the public visibility and exposure to arbiters owing to abundant networks? Our result

preliminarily suggests that they also have to be mindful of the characteristics of networks, which previously were deemed innocuous. The “optimal” balance between positive and negative effect of networks, however, may be contingent on the type and characteristic of the network that they are building.

Moreover, the discipline role the networks with high corporate governance shows the effectiveness of collaborating corporate governance among firms at network level. The interplay between organization’s demand of building network with high corporate governance and the self-interests of CEO building networks with low corporate governance could be a research interest one needs to take into account.

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TABLE 1

Pearson's Correlations [a]

	Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1.	Stigmatizing Event	0.15	0.23												
2.	Jump within network[c]	0.05	0.12	.03											
3.	Jump outside network[c]	0.10	0.28	-.04	.01										
4.	Number of CEO Networks	0.43	0.84	.02	-.05	–.07									
5.	High Centrality	0.25	0.40	-.04	.04	.06	.01								
6.	Medium Centrality	0.50	0.46	-.01	.01	.04	–.19	.04							
7.	High Corporate Governance	0.18	0.55	.12	.05	–.09	.09	.09	.00						
8.	Low Corporate Governance	0.18	0.50	.18	.05	–.05	.05	.03	.01	.31					
9.	Demotion	0.51	0.50	.15	.05	–.04	.14	.10	–.03	.45	.11				
10.	Total Compensation (Million $)	6.47	5.74	.18	.09	–.07	.07	.01	.01	.02	.15	.06			
11.	Manager Age	54.29	5.97	-.03	.02	.02	.03	–.02	.01	–.11	.09	–.09	.29		
12.	ROA (%)	2.76	9.23	.02	.03	–.09	.27	.20	.01	.44	.19	.51	.10	–.07	
13.	Size (Billion $) [b]	1.35	2.90	.06	.01	.02	–.04	.10	.04	.16	.07	.17	.03	–.05	–.06

[a] $n = 355$. Correlation coefficients between .02 and .03 are significant at $p < .10$; greater than .03 and less than .04, at $p < .05$; and values greater or equal than .04 are significant at $p < .01$.

[b] For comparability, mean values of Size are not reported in a log scale.

c Statistics reported for these variables should be interpreted with caution, as they exist only for those observations representing reemployed executives.

TABLE 2 [a]

Results of Baseline H1 and H2, Moving to Part of Network and Stigmatization

	Compensation Increase			Demotion		
Independent variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Hypothesis-testing Variables						
Stigmatizing event	-0.33***	-0.40***	-0.49***	0.11**	0.18***	0.24***
Total No. of Network	0.09	0.09	0.10	-0.07	-0.08	-0.08
Jump Inside Network	0.15	0.15	0.15	-0.01	-0.01	-0.01
Jump Outside Network	0.08	-0.04	-0.04	0.02	0.02	0.01
Interaction terms						
Stigma x Total No. of Network		0.15*			-0.07*	
Stigma x Jump Inside Network			0.20***			-0.14***
Stigma x Jump Outside Network			-0.11*			0.05
Controls						
△ROA	0.01	0.01	0.01	-0.01	-0.01	-0.01
△Firm Size	0.16**	0.18**	0.18**	0.24***	0.24***	0.24***
Manager Age	-0.20***	-0.20**	-0.20***	-0.05	-0.07	-0.08
Mills Ratio	0.21	0.22	0.22	-0.13	-0.12	-0.12
Intercept	1.20	1.76	1.76	-0.27	-0.24	-0.24
Model statistics						
Pseudo R^2	0.14	0.15	0.19	0.19	0.15	0.07
Number of observations	335	335	335	335	335	335

[a] Robust standard errors are in parentheses. All tests are two-tailed. $^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$

TABLE 3 [a]

Results of H3, High Centrality and Stigmatization

	Compensation Increase		Demotion	
Independent variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**
Hypothesis-testing Variables				
Stigmatizing event	-0.32***	-0.31***	0.14**-	0.18**
Medium Centrality	0.12	0.13	-0.05	-0.06
High Centrality	0.25	0.26	0.04	0.03
Interaction terms				
Stigma x Medium Centrality		0.05		-0.07
Stigma x High Centrality		-0.11**		0.03*
Controls				
△ROA	0.01	0.09	-0.00	-0.00
△Firm Size	0.17**	0.17**	0.25***	0.25***
Manager Age	-0.19***	-0.19***	-0.03	-0.03
Mills Ratio	0.22	0.20	-0.13	-0.11
Intercept	-0.61	-0.60	-0.32	-0.30
Model statistics				
Pseudo R^2	0.13	0.18	0.06	0.06
Number of observations	335	335	335	335

[a] Robust standard errors are in parentheses. All tests are two-tailed. $^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$

TABLE 4 [a]

Results of H4, High Corporate Governance Network and Stigmatization

	Compensation Increase			Demotion		
Independent variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Hypothesis-testing Variables						
Stigmatizing event	-0.31***	-0.27***	-0.44***	0.14***	0.15***	0.20***
No. of High CG Networks	-0.06	0.10		-0.20	-0.20	-0.06
No. of Low CG Networks	0.15*		-0.15	-0.21**		
Interaction terms						
Stigma x No. of High CG Networks		-0.25*			0.10*	
Stigma x No. of Low CG Networks			0.45***			-0.23*
Controls						
△ROA	0.00	0.01	0.02	0.01	0.01	0.00
△Firm Size	0.17**	0.16**	0.19***	0.24***	0.24***	0.26***
Manager Age	-0.18**	-0.16**	-0.17**	-0.03	-0.03	-0.03
Mills Ratio	0.22	0.22	0.22	-0.13	-0.12	-0.12
Intercept	1.06	0.64	1.13	-0.31	-0.31	-0.28
Model statistics						
Pseudo R^2	0.13	0.14	0.17	0.04	0.04	0.06
Number of observations	335	335	335	335	335	335

[a] Robust standard errors are in parentheses. All tests are two-tailed. $^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$

Appendix

Measurement of Variables

Dependent Variables:	
Compensation	Salary + Bonus + all short term and long term incentives and exercised option.
Demotion	Dummy takes 1 if the title held after the change of job is lower than the one held before.
Main Explanatory Variables:	
Jump inside network	Dummy that takes the value of one if executive move to a firm within personal network (interlocking directorships or the firms connected to the firms he sits on the board).
Jump outside network	Dummy that takes the value of one if executive move to a previously unrelated firm (neither interlocking directorships nor the firms connected to the firms he sits on the board).
High Centrality	Dummy that takes 1 if the CEO's total number of outside directorships falls into the top 25% quartile of all CEOs in the sample.
Medium Centrality	Dummy taking 1 when the CEO's number of outside directorships falls into the second and third quartiles.
Stigmatizing event	It is 1 if the firm is bankrupt or delisted from equity market due to liquidation in the past three years before changing job.
No. of High CG Netowrks	The total number of interlocking networks that have high corporate governance held by CEO
No. of Low CG Netowrks	The total number of interlocking networks that have low corporate governance held by CEO
Control Variables:	
Firm Size	The logarithm of total assets
ROA	Return on Total Assets
Manager Age	Age of managers
Mills Ratio	Probability of CEO being found in the database, computed from the probit estimation explaining CEO reemployment as defined in the main text